ORDER NO. SD7903-1543

Service Manual

SU-8088/K

Stereo Integrated Amplifier

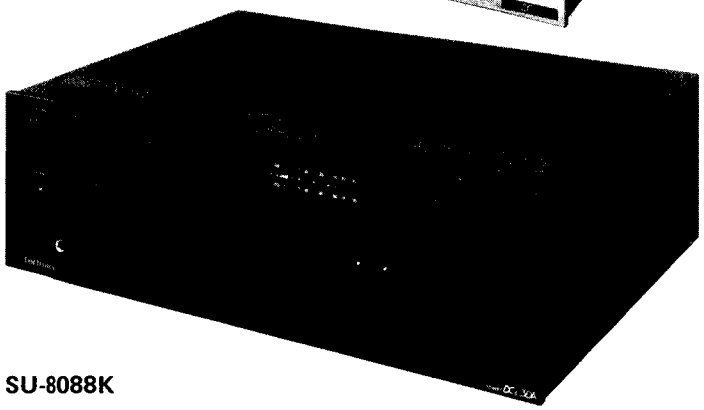
SU-8088

(D), (DG), (EB), (XSW), (XGF), (XGH)

SU-8088K

(D), (DG), (EB), (XSW), (XGH), (XE), (X), (XA), (XAL)

SU-8088



SU-8088K

SU-8088K is different in appearance according to area.

* The models SU-8088 (D, DG) and SU-8088K (D, DG) are available in Scandinavia and European only.
* The models SU-8088 (EB) and SU-8088K (EB) are available in Belgium only.
* The models SU-8088 (XSW) and SU-8088K (XSW) are available in Switzerland only.
* The model SU-8088 (XGF) is available in France only.
* The model SU-8088 (XGH) and SU-8088K (XGH) are available in Holland only.
* The model SU-8088K (XE) is available in United Kingdom only.
* The models SU-8088K (X, XA) are available in Asia, Latin America, Middle East and Africa only.
* The model SU-8088K (XAL) is available in Australia only.

TECHNICAL SPECIFICATIONS

Specifications are subject to change without notice for further improvement.

[DIN 45 500]

AMPLIFIER SECTION

20Hz ~ 20kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
40 Hz ~ 16 kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
1 kHz continuous power output	
both channels driven	2 x 95 W (4Ω), 2 x 85 W (8Ω)
Power bandwidth both channels driven, −3 dB	
	THD 0.02% 5Hz ~ 50 kHz (4Ω)
	THD 0.01% 5 Hz ~ 60 kHz (8Ω)
Total harmonic distortion	
rated power at 20 Hz ~ 20 kHz	0.02% (4Ω), 0.01% (8Ω)
rated power at 40 Hz ~ 16 kHz	0.01% (4Ω, 8Ω)
rated power at 1 kHz	0.01% (4Ω, 8Ω)
half power at 20 Hz ~ 20 kHz	0.007% (8Ω)
half power at 1 kHz	0.003% (8Ω)
−26 dB power at 1 kHz	0.07% (4Ω)
50mW power at 1 kHz	0.12% (4Ω)
Intermodulation distortion	
rated power at 250 Hz : 8 kHz = 4 : 1, 4Ω	0.02%
rated power at 60 Hz : 7 kHz = 4 : 1, SMPTE, 8Ω	0.01%
Residual hum & noise (Straight DC)	0.3 mV (0.3 mV, IHF A)
Damping factor	25 (4Ω), 50 (8Ω)
Input sensitivity and impedance	
PHONO 1, 2 MM	2.5 mV/47 kΩ
PHONO 1 MC	100 μV/47Ω
TUNER, AUX	200 mV/47 kΩ
TAPE 1, 2 (PLAYBACK), REC/PLAY	200 mV/47 kΩ
MAIN IN	1V/18 kΩ
PHONO maximum input voltage (1 kHz, RMS) MM	250 mV
MC	10 mV
S/N rated power at 4Ω	
PHONO 1, 2 MM	75 dB (90 dB, IHF A)
PHONO 1 MC	70 dB (78 dB, IHF A)
TUNER, AUX	92 dB (110 dB, IHF A)
S/N −26 dB power at 4Ω	
PHONO 1, 2 MM, PHONO 1 MC	67 dB
TUNER, AUX	69 dB
S/N 50 mW power at 4Ω	
PHONO 1, 2 MM, PHONO 1 MC	64 dB
TUNER, AUX	65 dB
Frequency response PHONO	RIAA standard curve
	30 Hz ~ 15 kHz, ±0.2 dB
TUNER, AUX, TAPE	20 Hz ~ 20 kHz, $^{+0}_{-0.1}$ dB
	0.5 Hz ~ 100 kHz, −1 dB
Tone controls BASS	50 Hz, +7.5 dB ~ −7.5 dB
TREBLE	20 kHz, +7.5 dB ~ −7.5 dB
Turnover frequency BASS	125 Hz, 500 Hz
TREBLE	2 kHz, 8 kHz
High filter	7 kHz, −6 dB/oct.
Equalizer subsonic filter	20 Hz, −12 dB/oct.
Loudness control (volume at −30 dB)	50 Hz, +7.5 dB
Output voltage and impedance PRE OUT	rated 1V, max. 7V
REC OUT	200 mV
REC/PLAY	30 mV/82 kΩ
Channel balance (250 Hz ~ 6300 Hz), AUX	±1.0 dB
Channel separation at 1 kHz, AUX	60 dB
Headphones output level and impedance	600 mV/330Ω
Load impedance MAIN or REMOTE	4 ~ 16Ω
MAIN + REMOTE	8 ~ 16Ω

GENERAL

Power consumption	830 W
Power supply (50 Hz/60 Hz)	110V/120V/220V/240V
Dimensions (W x H x D)	450 x 142 x 360 mm
	(17-23/32" x 5-19/32" x 14-3/16")
Weight	15 kg (33.1 lb.)

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

SU-8088/K

TECHNISCHE DATEN Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

[DIN 45 500]

VERSTÄRKERTEIL

Dauertonleistung bei 20 Hz ~ 20 kHz	2 x 90 W (4Ω)
beide Kanäle zusammen ausgesteuert	2 x 80 W (8Ω)
Dauertonleistung bei 40 Hz ~ 16 kHz	2 x 90 W (4Ω)
beide Kanäle zusammen ausgesteuert	2 x 80 W (8Ω)
Dauertonleistung bei 1 kHz	2 x 95 W (4Ω)
beide Kanäle zusammen ausgesteuert	2 x 85 W (8Ω)
Leistungsbandbreite	
beide Kanäle zusammen ausgesteuert, –3 dB	
THD 0,02%	5 Hz ~ 50 kHz (4Ω)
THD 0,01%	5 Hz ~ 60 kHz (8Ω)
Harmonische Verzerrungen	
Nennausgangsleistung bei 20 Hz ~ 20 kHz	0,02% (4Ω), 0,01% (8Ω)
Nennausgangsleistung bei 40 Hz ~ 16 kHz	0,01% (4Ω, 8Ω)
Nennausgangsleistung bei 1 kHz	0,01% (4Ω, 8Ω)
Halber Ausgangsleistung bei 20 Hz ~ 20 kHz	0,007% (8Ω)
Halber Ausgangsleistung bei 1 kHz	0,003% (8Ω)
–26 dB Ausgangsleistung bei 1 kHz	0,07% (4Ω)
50 mW Ausgangsleistung bei 1 kHz	0,12% (4Ω)
Intermodulationsverzerrung	
Nennausgangsleistung bei 250 Hz: 8kHz = 4:1, 4Ω	0,02%
Nennausgangsleistung bei 60Hz: 7kHz = 4:1, SMPTE 8Ω	0,01%
Brummen & Rauschen	0,3 mV (0,3 mV, IHF A)
Dämpfungsfaktor	25 (4Ω), 50 (8Ω)
Eingangsempfindlichkeit & Impedanz	
PHONO 1, 2 MM	2,5 mV/47 kΩ
PHONO 1 MC	100μV/47Ω
TUNER, AUX	200 mV/47 kΩ
TAPE 2, REC/PLAY	200 mV/47 kΩ
TAPE 2	200 mV/47 kΩ
MAIN IN	1V/18kΩ
PHONO Maximale Eingangsspannungen MM	250 mV
MC	10 mV
Frequenzang PHONO	RIAA Standardkurve
	30 Hz ~ 15 kHz, ±0,2 dB
TUNER, AUX, TAPE	0,5 Hz ~ 100 kHz, –1 dB
	20 Hz ~ 20 kHz, $^{+0}_{-0,1}$ dB
Fremdspannungsabstand	
Nennausgangsleistung bei 4Ω	
PHONO 1, 2 MM	75 dB (90 dB, IHF A)
PHONO 1 MC	70 dB (78 dB, IHF A)
TUNER, AUX	92 dB (110 dB, IHF A)
–26 dB Ausgangsleistung bei 4Ω PHONO 1, 2 MM	67 dB
PHONO 1 MC	67 dB
TUNER, AUX	69 dB
50mW Ausgangsleistung bei 4Ω PHONO 1, 2 MM	64 dB
PHONO 1 MC	64 dB
TUNER, AUX	65 dB
Klangregler BÄSSE	50 Hz, +7,5 dB ~ –7,5 dB
HÖHEN	20 kHz, +7,5 dB ~ –7,5 dB
Übergangsfrequenz BÄSSE	125Hz, 500Hz
HÖHEN	2kHz, 8kHz
Höhenfilter (HIGH)	7 kHz, –6 dB/oct.
Unterschallfilter	20 Hz, –12 dB/oct.
Gehörgerechte Lautstärkekorrektur (Lautstärke bei –30 dB)	50 Hz, +7,5 dB
Ausgangsspannungen & Impedanz PRE OUT Nennleistung	1V, max. 7V
REC OUT	200 mV
REC/PLAY	30 mV/82 kΩ
Kanalabweichung (250 Hz ~ 6300 Hz), AUX	±1,0 dB
Kanaltrennung bei 1 kHz, AUX	60 dB
Köpfhörerpegel und Ausgangsimpedanz	600 mV/330Ω
Lautsprecher-Ausgangsimpedanz	
MAIN oder REMOTE	4 ~ 16Ω
MAIN und REMOTE	8 ~ 16Ω

ALLGEMEINE DATEN

Leistungsaufnahme	830 W
Netzspannung umschaltbar (50 Hz/60Hz)	110V/120V/220V/240V
Abmessungen (B x H x T)	450 x 142 x 360 mm
Gewicht	15 kg

CARACTERISTIQUES TECHIQUES Sujet à changement sans préaris.

[DIN 45 500]

PARTIE AMPLIFICATEUR

Puissance (continue) à 20 Hz ~ 20 kHz	
pour l'ensemble des canaux excités	2 x 90 W (4Ω)
	2 x 80 W (8Ω)
Puissance (continue) à 40 Hz ~ 16 kHz	
pour l'ensemble des canaux excités	2 x 90 W (4Ω)
	2 x 80 W (8Ω)
Puissance (continue) à 1 kHz	
pour l'ensemble des canaux excités	2 x 95 W (4Ω)
	2 x 85 W (8Ω)
Largeur de bande de puissance	
pour l'ensemble des canaux excités, –3 dB	
THD 0,02%	5 Hz ~ 50 kHz (4Ω)
THD 0,01%	5 Hz ~ 60 kHz (8Ω)
Distorsion harmonique totale	
pour la puissance mesurée à 20 Hz ~ 20 kHz	0,02% (4Ω), 0.01% (8Ω)
pour la puissance mesurée à 40 Hz ~ 16 kHz	0,01% (4Ω 8Ω)
pour la puissance mesurée à 1 kHz	0,01%(4Ω, 8Ω)
pour la demi-puissance mesurée à 20 Hz ~ 20 kHz	0,007% (8Ω)
pour la demi-puissance mesurée à 1 kHz	0,003% (8Ω)
pour une puissance mesurée de –26 dB, 1 kHz	0,07% (4Ω)
pour une puissance mesurée de 50 mW, 1 kHz	0,12% (4Ω)
Distorsion d'intermodulation	
pour la puissance mesurée à 250 Hz: 8 kHz = 4:1, 4Ω	0,02%
pour la puissance mesurée à 60 Hz: 7 kHz = 4:1, 8Ω	0,01%
Tension résiduelle de bruit	0,3 mV (0,3 mV: IHF A)
Facteur d'amortissement	25 (4Ω), 50 (8Ω)
Sensibilité & impédance d'entrée	
PHONO 1, 2 MM	2,5 mV/47 kΩ
PHONO 1 MC	100μV/47Ω
TUNER, AUX	200 mV/47 kΩ
TAPE 1, REC/PLAY	200 mV/47 kΩ
TAPE 2	200 mV/47 kΩ
MAIN IN	1V/18 kΩ
Voltage d'entrée maximum (PHONO, 1 kHz, RMS)	
MM	250 mV
MC	10 mV
Réponse de fréquence	
PHONO	Courbe standard RIAA
	30 Hz ~ 15 kHz, ±0,2 dB
TUNER, AUX, TAPE	0,5 Hz ~ 100 kHz, –1 dB
	20 Hz ~ 20 kHz, $^{+0}_{-0,1}$ dB
Rapport signal/bruit	
pour la puissance nominale, 4Ω	
PHONO 1, 2 MM	75 dB (90 dB, IHF A)
PHONO 1 MC	70 dB (78 dB, IHF A)
TUNER, AUX	92 dB (110 dB, IHF A)
pour une sortie de –26 dB, 4Ω	
PHONO 1, 2 MM	67 dB
PHONO 1 MC	67 dB
TUNER, AUX	69 dB
pour une sortie de 50 mW, 4Ω	
PHONO 1, 2 MM	64 dB
PHONO 1 MC	64 dB
TUNER, AUX	65 dB
Réglage de la tonalité	
BASS (graves)	50 Hz, + 7,5 dB ~ –7,5 dB
TREBLE (aigus)	20 kHz, + 7,5 dB ~ –7,5 dB
Fréquence charnière	
BASS	125 Hz, 500 Hz
TREBLE	2 kHz, 8 kHz
Filtre subsonique	20 Hz, –12 dB/oct.
Filtre Aigu (HIGH)	7 kHz, – 6 dB/oct.
Correction physiologique (volume à –30 dB)	50 Hz, +7,5 dB
Tension de sortie & impédance PRE OUT	nominale 1 V
	maxi 7 V
REC OUT	200 mV
REC/PLAY	30 mV/82 kΩ
Equilibrage de canaux (250 Hz ~ 6300 Hz), AUX	±1,0 dB
Séparation des canaux, AUX 1 kHz	60 dB
Niveau de casque et impédance de sortie	600 mV/330Ω
Impédance de charge PRINCIPALE ou ELOIGNEE	4 ~ 16Ω
PRINCIPALE + ELOIGNEE	8 ~ 16Ω

GENERALITES

Consommation	830 W
Alimentation (50 Hz/60 Hz)	110V/120V/220V/240 V
Dimensions (L x H x Pr)	450 x 142 x 360 mm
Poids	15 kg

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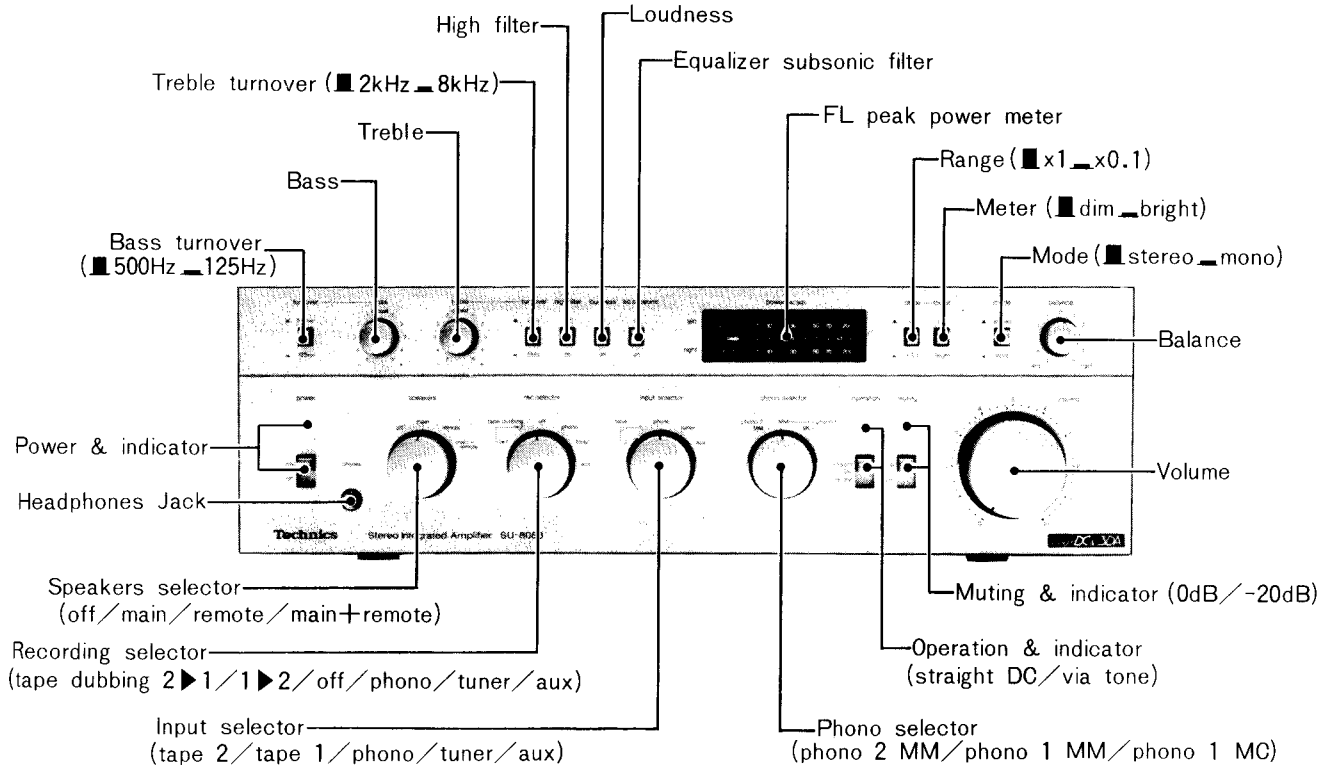
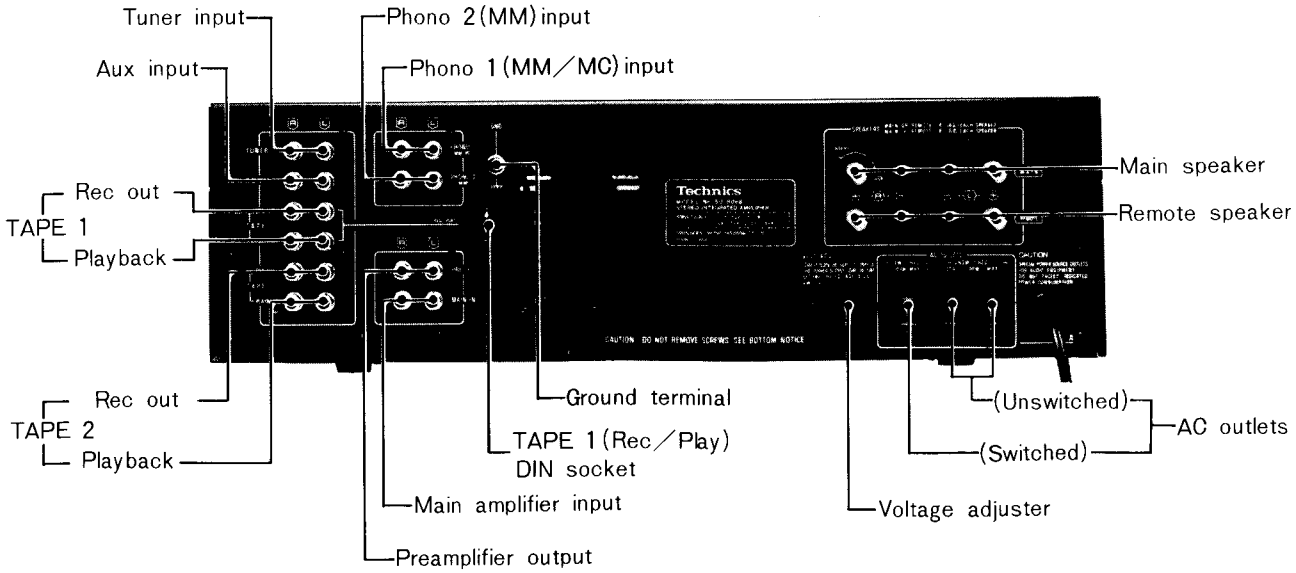
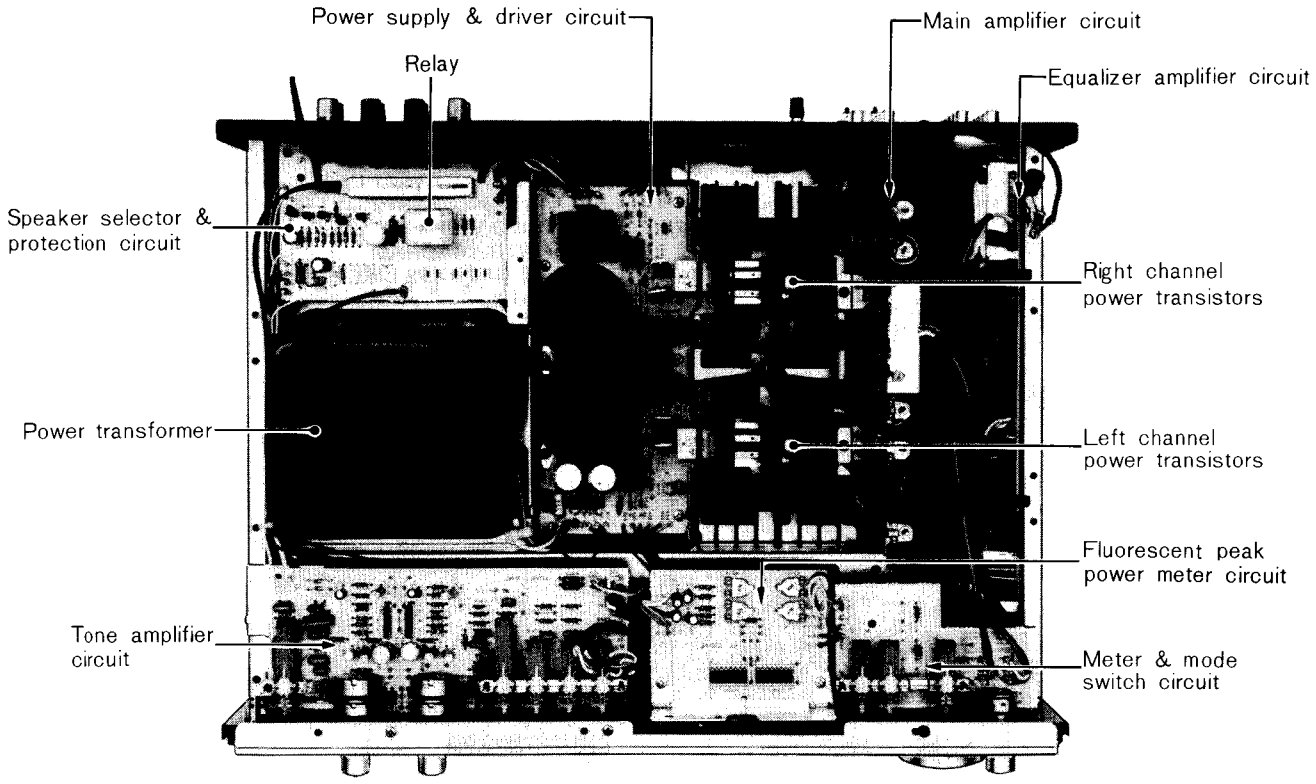
■ LOCATION OF CONTROLS

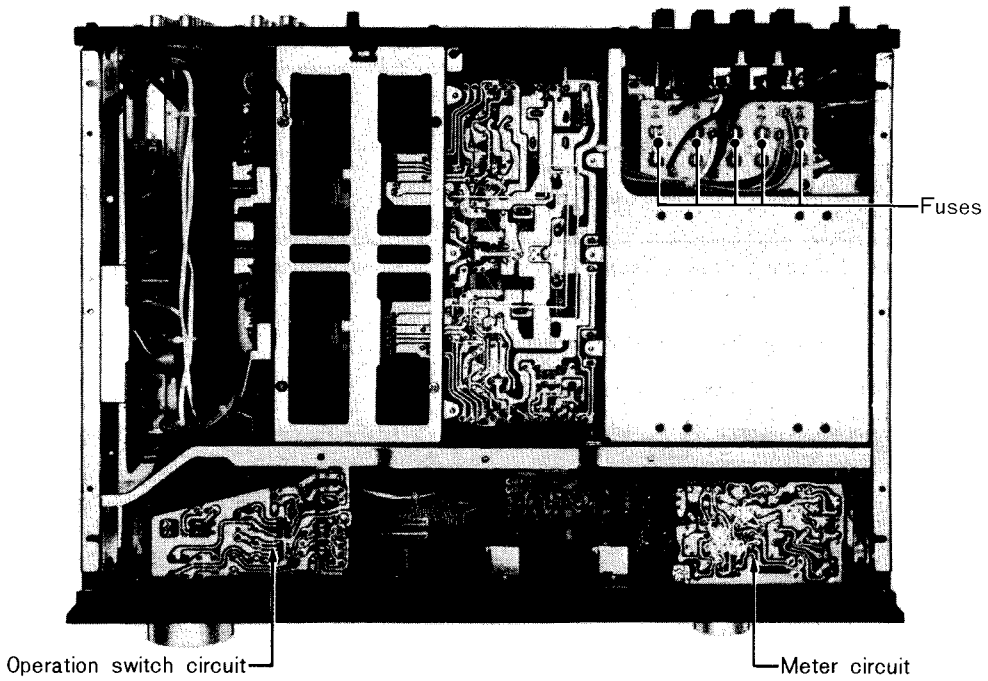




* This rear panel photo shows only the products for SU-8088K (X) and SU-8088K (XA).
* The products for other destinations except SU-8088K (X) and SU-8088K (XA) are not equipped with AC outlets.



TOP VIEW



BOTTOM VIEW

■ OUTLINE OF THIS UNIT

This is a straight DC amplifier which has been developed in quest of ideal sound quality while scientifically verifying the results of hearing tests with the best use of the 3DA (3 Dimension Analysis) to make analyses in relation to the three factors of amplifier (frequency characteristic, distortion, dynamic range) that determine the sound quality, and an I/O (Input/Output) distortion analyser which enabled us to analyze amplifier distortion by using musical signals.

1. **Technics original straight DC system that has approached an ideal amplifier in quest of extra-low frequency reproducing ability.**
   This unit employes a DC Amplifier system ever since Model SU-8080, intending to achieve a wave transmitting characteristic as faithful as possible. Also, it is the straight DC system that has realized, the reproduction by DC Amplifier from high-level inputs such as tuner, aux, etc.

2. **Concentrated power block and SLPT (Super Linear Power Transistor) that have greatly improved the high frequency (up to 100 kHz) reproducing ability.**
   The main amplifier output stage and the current supply section of this unit are concentrated on one block (concentrated power block) in order to eliminate high frequency distortion completely. This system minimizes the worsening of distortion of high frequency band due to electromagnetic waves, connecting the output, power source and power supply line at the shortest distance. In addition, a large current section is provided by using copper plate to make the most of the effects, thus breaking up the general idea of conventional wiring.
   Furthermore, SLPT (Super Linear Power Transistors 2SA1065, 2SC2489) is employed at the output stage in an attempt to improve the high frequency characteristic. The SLPT, developed by utilizing the high frequency transistor technology employed for high frequency (100 MHz) power amplification, is a nearly ideal power transistor for audio equipment; and its gain band-width product frequency f_T is as high as 50 ~ 60 megahertz, the linearity of h_{FE} (Common emitter dc current gain) is excellent, and ASO (Area of safety operation) is very wide.

3. **High S/N ratio MC pre-pre-amp that permits direct reproduction of MC cartridge.**
   This unit is equipped with a pre-pre-amp for MC cartridge so that an MC cartridge can be directly reproduced at a high S/N ratio and low distortion factor. Also, due to the extra-low noise transistor, the S/N ratio is 78 dB (250μV input) that is equivalent to a conventional MM equalizer's.

4. **Complete electronic FL (Fluorescence) power meter of accurate, quick response**
   This unit employs a complete electronic FL power meter which is optimum for checking the amplifier output. Unlike a mechanical meter, the FL power meter indicates the output with light, therefore it assures quick,accurate response, and is most suitable for checking signal levels varying incessantly.
   Because of the meter range and the meter brightness changeover switch, it is easy to read the indication in case of a minute output, and possible to change the brightness as needed.

5. **Low leakage power transformer**
   The power transformer of this unit is a high efficiency transformer with the coil floating in special resin, which is stored in a sufficiently shielded case. The power capacity is provided with a sufficient allowance, and the generation of leakage flux is minimized, therefore the influence due to hum, etc. is extremely slight, and these advantages make a great contribution to the high S/N ratio design of the unit. Also, the floating coil in special resin greatly contributes to the reduction of mechanical vibration of the transformer.

6. **Equalizer circuit that has realized high S/N ratio (90 dB), using extra-low noise FET at the initial stage.**
   The MM equalizer circuit with extra-low noise FET (2SK155) at the initial stage has disused the coupling capacitor at the input stage.
   This equalizer circuit is designed in low circuit impedance in order to minimize the generation of noise. Consequently, a high S/N ratio of 90 dB (2.5mV input) that will cause almost no noise has been achieved. Also, a metallic film resistor and polypropylene capacitor of less than ±2% deviation are used for the RIAA element that determines the sound quality (frequency characteristic) of the equalizer circuit.
   This has realized a very accurate frequency characteristic with RIAA deviation of 20 Hz ~ 20 kHz ± 0.2 dB.

7. **High efficiency tone control circuit of turn-over 2-step selection and mid-point complete defeat type**
   The tone control can be used with the operation switch of this unit set to via tone. The circuit includes high efficiency IC's and two steps (125 Hz, 500 Hz) for bass and two steps (2 kHz, 8 kHz) for treble to set the turn-over frequency that determines the alteration characteristic.
   Also, since parts such as capacitors, etc. which may affect the frequency characteristic are completely isolated from the adjusting volume by means of a special switch mechanism at the mechanical center, the frequency characteristic is flat.

8. **Recording slector that has greatly improved tape handling convenience, separating the recording signal line from the input selector.**
9. **Remote action switch that has reduced the wiring and brought about high efficiency performance.**

■ ALIGNMENT INSTRUCTIONS ENGLISH

1. Adjustment of unbalanced DC voltage and Ico (idling current of power transistor)

- **Conditions of the set, and equipment used**
  1. Operation switch . . . . . straight DC
  2. Speaker switch . . . . . main
  3. Sound volume. . . . . 0 (minimum)
  4. DC voltmeter
  5. 8-ohm load resistor (used only for unbalanced DC voltage adjustment)

Adjustments	DC voltmeter connections	Adjusting portions	Adjusting procedure
Constant voltage power supply	Connect the (+) terminal of a DC voltmeter to No. 151 terminal, and the (−) terminal to ground.	R610	(1) Adjust voltage for (+) 48V between terminal 151 and ground. (2) At this time, check voltage between terminal 152 and ground be (−) 47V to (−) 48.5V.
Unbalanced DC voltage of power amplifier	Connect the meter to the speaker terminals for L and R channels in parallel with the 8 ohm load resistor.	R411 (L ch) R412 (R ch)	(1) Set the meter to "0" with measuring range as small as possible. Note: If it cannot be adjusted, cut off the jumper wire J2 (L ch.) and J3 (R ch.) before adjustment.
Ico (idling current of power transistor)	(+) side . . . TP3 } (L ch) (−) side . . . TP1 } (+) side . . . TP4 } (R ch) (−) side . . . TP2 }	R461 (L ch) R462 (R ch)	Adjust it to about 15mV a few minutes after turning on the power supply.

2. Adjustment of FL power meter

- **Conditions of the set, and equipment used**
  1. Input selector . . . . . tuner
  2. Speaker switch . . . . . main
  3. Meter range switch. . . . . X0.1 or X1
  4. Meter brightness switch . . . . . dim or bright
  5. Sound volume. . . . . 10 (max.)
  6. Low frequency oscillator
  7. AC electronic voltmeter
  8. 8-ohm load resistor

2-1. Adjustment of 0.03W

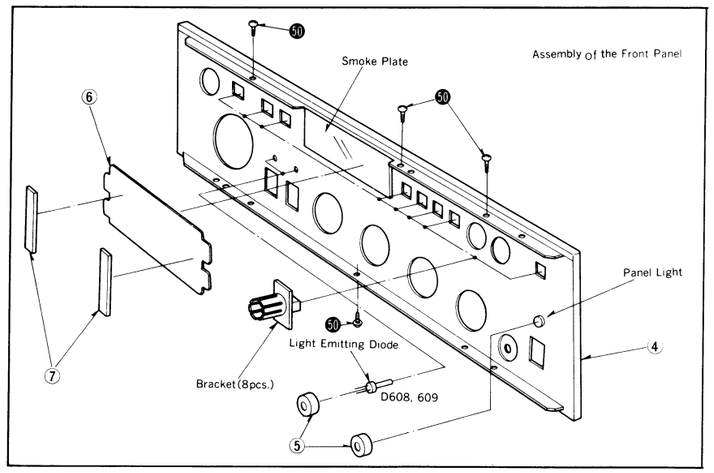
1) Connect the low frequency oscillator to the tuner terminals for both channels, and the AC electronic voltmeter to the speaker terminals in parallel with the load resistor.
2) Set the meter range switch to "X0.1", and the meter brightness switch to "dim".
3) Add 1 kHz signal from the low frequency oscillator, and regulate the input level so that the AC electronic voltmeter indicates 0.75V.
4) Adjust **R523** (L ch) while observing the FL power meter until the first segment is about to turn on. (0.3W position of X0.1 range). Refer to fig. 1.
5) Similarly, make the adjustment of **R524** (R ch). At that time, if the indication of L ch varies, correct **R523.**

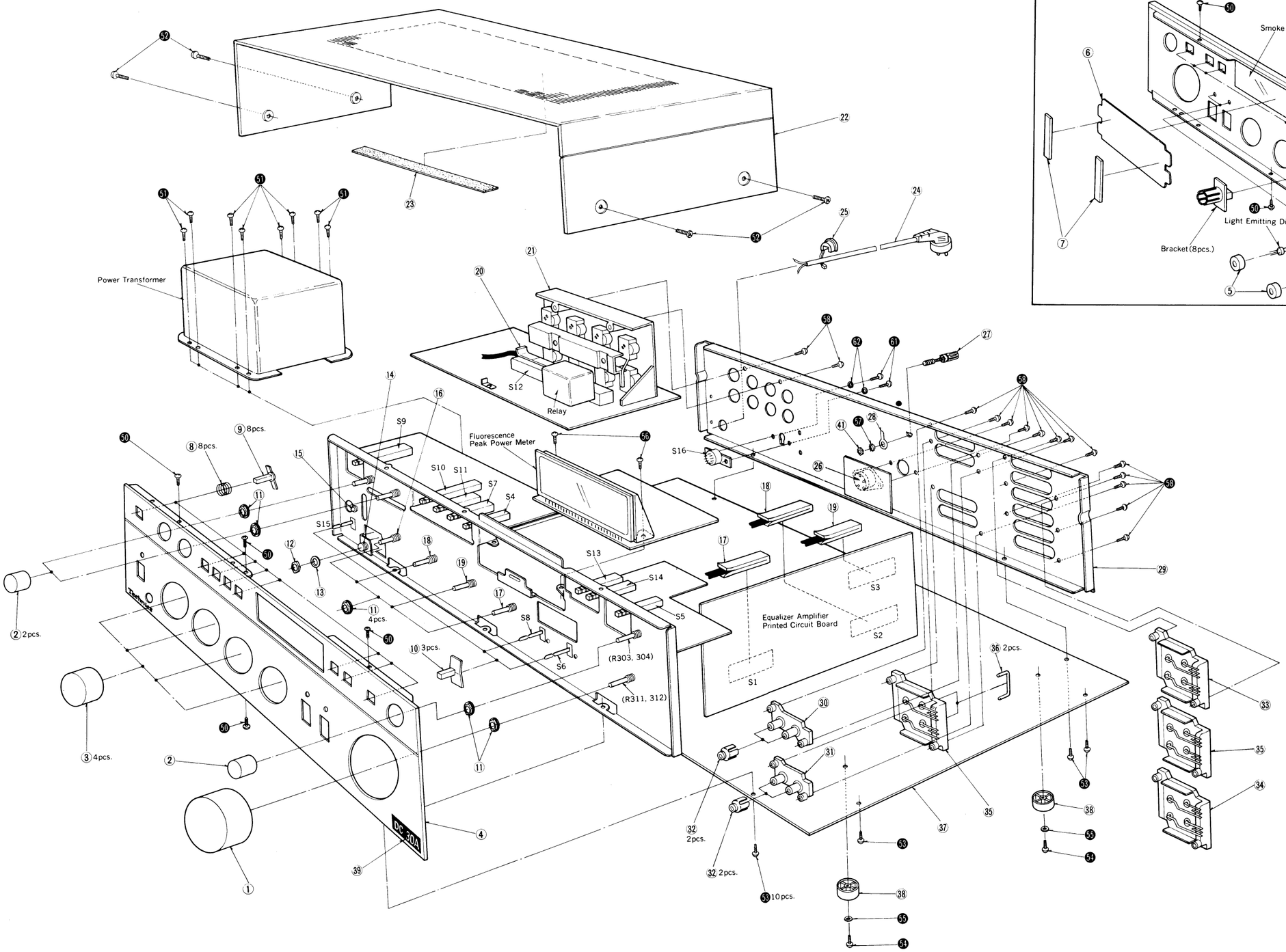
Note: When the adjustment has been made so that the second segment is about to turn on, the first segment turns on without input.

2-2. Adjustment of 50W

1) Set the meter range switch to "X1", and the meter brightness switch to "bright".
2) Regulate the input level so that the AC electronic voltmeter indicates 19V.
3) Make the adjustment in the same way as mentioned in 2-1 by regulating **R529** (L ch) and **R530** (R ch) so that the 9th segment (at 50W position) is about to turn on. Refer to fig. 2.
4) Next, make the adjustment in 2-1 (0.03W) by regulating the input level.
5) Again regulate the input level to make the output 19V, and make sure that the segment at 50W position is on.

■ EXPLODED VIEWS

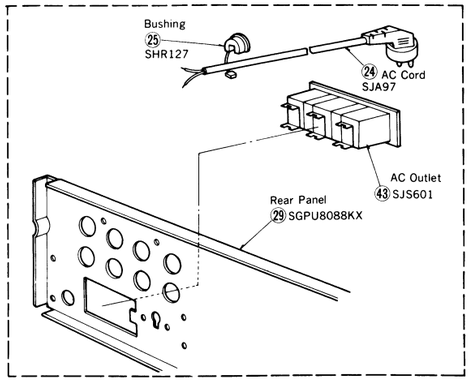




3

4

Addition of AC outlets, only for products
SU-8088K (X) and SU-8088K (XA)



■ REPLACEMENT PARTS LIST ..... Cabinet and Chassis Parts

Notes: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts order.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.

Ref. No.		Part No.	Part Name & Description
		CABINET and CHASSIS PARTS	
1		SBN773	Knob, Volume Control
2		SBN771	Knob, Balance, Bass & Treble Control
3		SBN769	Knob, Selector Switches
4		SGWU8088M	Panel, Front Ass'y
5		SHG1481	Bracket, LED Indicators
6		SDU15	Filter, FL Peak Power Meter
7		SHG1479	Rubber Cushion, Filter
8		SUS123-2	Spring, Push Switches
9		SBC197	Button, Push Switches
10		SBD19	Knob, Lever Switches
11		SNE4021	Nut, Volumes & Selector Switches M'tg
12		XNSS12	Nut, Headphones Jack M'tg
13		SNE59-1	Washer
14		XCJ6P21B-A	Jack, Headphones
15		SHGA204	Rubber Bracket, Power Indicator
16		ESA23421	Remote Switch, Speakers Selector
17		ESA338	Remote Switch, Phono Selector (w/Wire)
18		ESA332	Remote Switch, Recording Selector (w/Wire)
19		ESA335	Remote Switch, Input Selector (w/Wire)
20		ESA2072	Remote Switch, Speakers (w/Wire)
21		SJF5807	Terminal, Speakers
22		SKA10131	Cabinet
23		SHS1009	Fiber, Cabinet
24		SJA97	AC Cord, Power Source (with Plug)
24 [XSW] only		SJA111	AC Cord, Power Source (with Plug)
25		SHR127	Bushing, AC Cord
26		SJS6509	DIN Socket, Tape Deck Connection
27		SJF4101	Terminal, Earth (Ground)
28		SJT201	Lug, Earth (Ground)
29 [D, XSW] only		SGPU8088W	Rear Panel, SGP1530-1B with Plate (SGP9017)
29		SGPU8088D	Rear Panel, SGPU8088W with Name Plate (SGT19550)
30		SJF3211-5	Terminal, PHONO 1 Input
31		SJF3211-4	Terminal, PHONO 2 Input

Ref. No.		Part No.	Part Name & Description
32		SJP1103	Pin Plug, Phono Input Terminal
33		SJF3423	Terminal, TUNER and AUX Input
34		SJF3425	Terminal, Tape Deck 2 Connection
35		SJF3421	Terminal, Pre/Main, Tape 1 Connection
36		SJP9205-1	Connector Pin, Pre & Main Amplifier
37		SKU7210	Bottom Board
38		SKLA7-1	Foot, Bottom Board
39		SGK1263	Label, Front Panel (straight DC & 3DA)
40		SJV1401-1	Socket, Power Transistor
41		XNGR6	Nut, Ground Terminal M'tg
42		SJS6601	Socket, Printed Circuit Board, 6 pin
		SCREWS and WASHERS	
50		**XTB3+8BFN**	Screw, Front Panel M'tg
51		**XTB4+8BFZ**	Screw, Power Transformer M'tg
52		XTB4+8FFN	Screw, Cabinet M'tg
53		**XTB3+8BFN**	Screw, Bottom Board M'tg
54		**XTN3+10B**	Screw, Foot M'tg
55		**XWG3**	Washer
56		**XTB3+8BFN**	Screw, FL Meter P.C.B. M'tg
57		**XWC6B**	Washer, Ground Terminal
58		**XTB3+8BFZ**	Screw, Speaker & Input Terminal M'tg
59		**XSB3+16BNS**	Screw, Power Transistor M'tg
60		**XWA3BFN**	Washer, Spring
61		**XSN3+6BVS**	Screw, Voltage Adjuster M'tg
62		**XWA3BFZ**	Washer, Spring
		PACKING PARTS	
P1		SPP595	Polyethylene Bag
P2		SPS1717-1	Pad, Left Side
P2 [XSW] only		SPS1717	Pad, Left Side
P3		SPS1719-1	Pad, Right Side
P3 [XSW] only		SPS1719	Pad, Right Side
P4 [XSW] only		SPG1979	Carton Box
P4 [XGF] only		SPG1997	Carton Box
P4		SPG1995	Carton Box
P5		SQF10175	Instructions Book, Printed Matter

■ CHANGE OF PARTS LIST

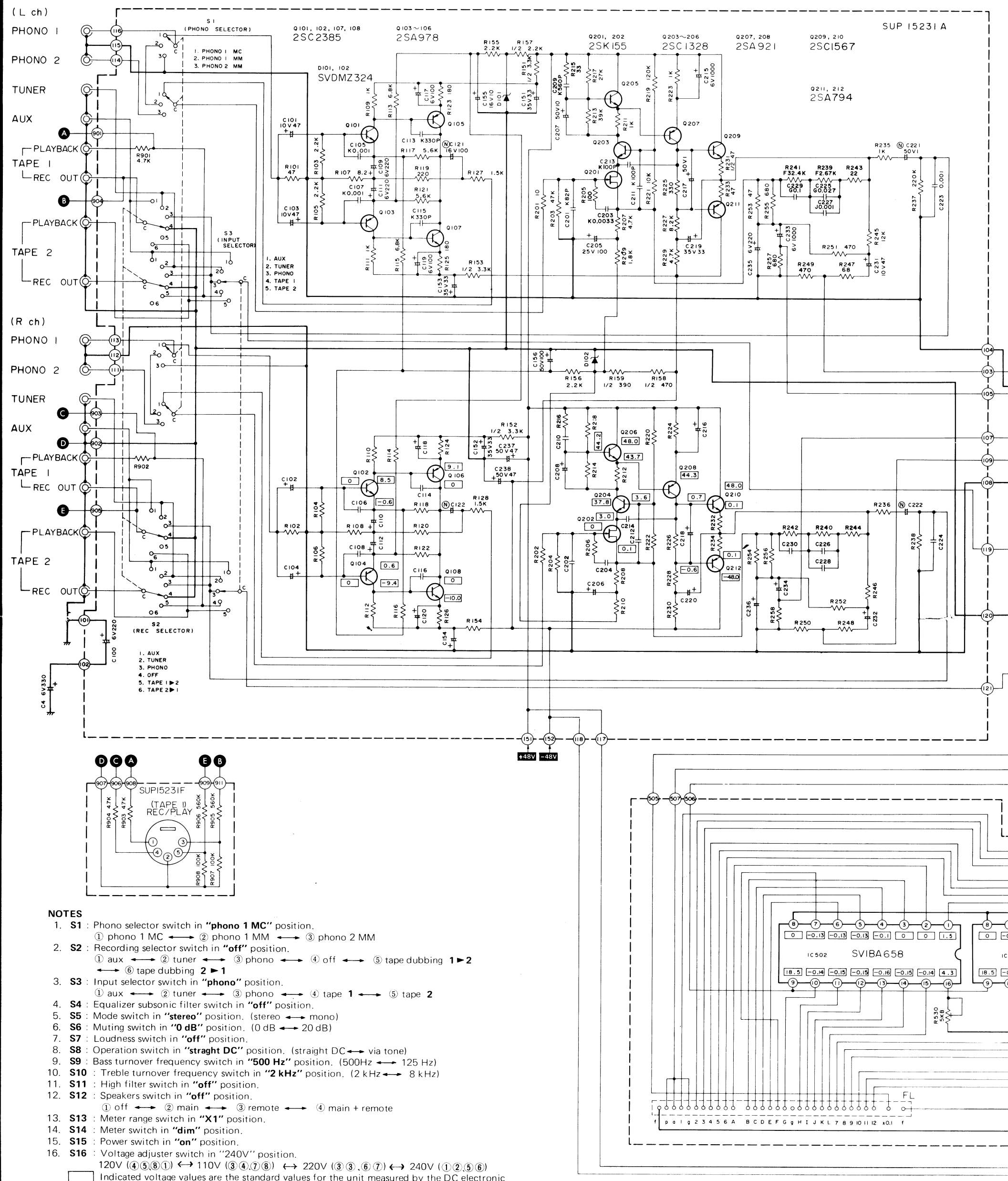
SU-8088K

(D), (DG), (EB), (XSW), (XE), (X), (XA), (XAL)

Note: This parts list included only the changes of the model SU-8088 parts list.

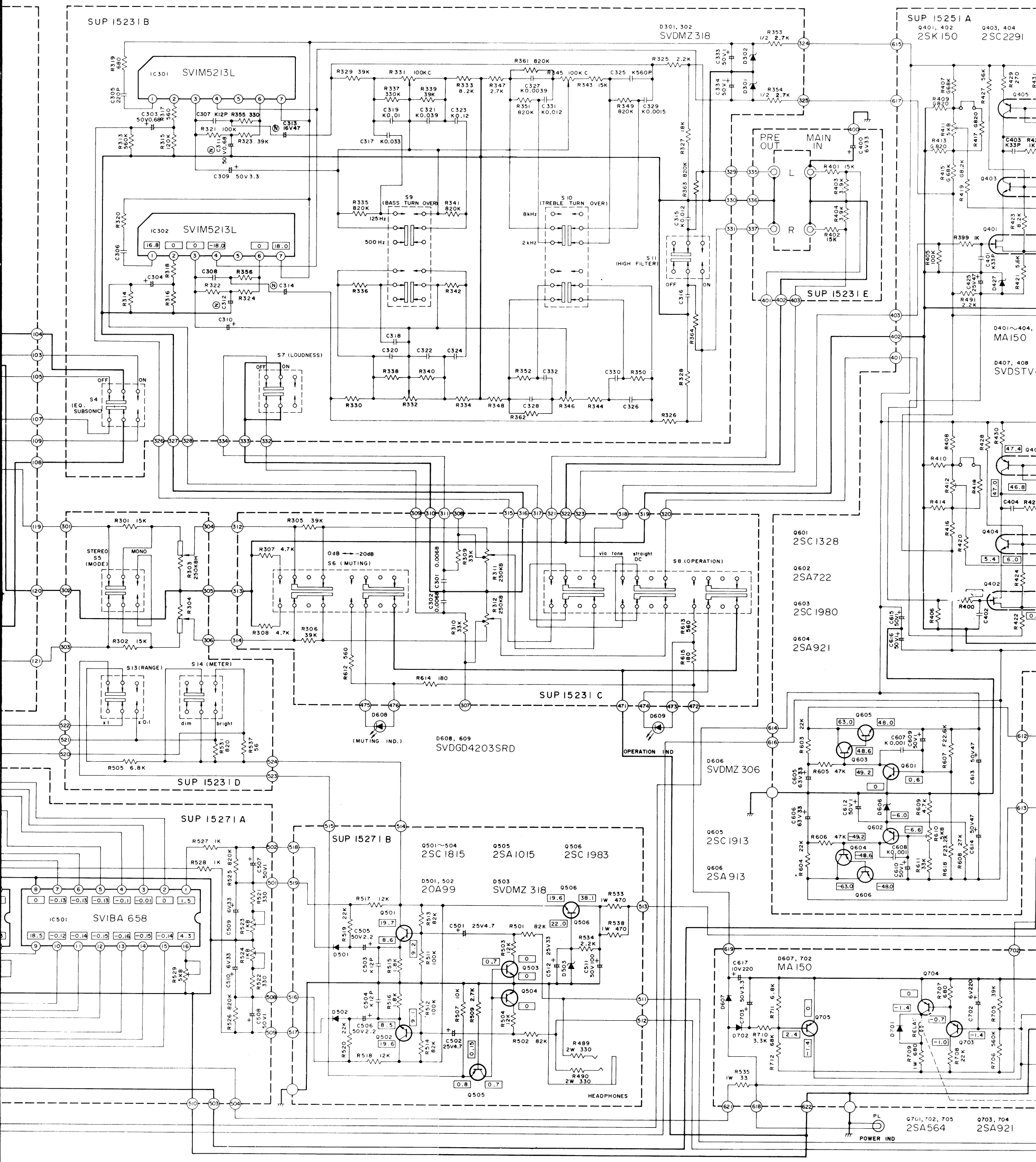
Ref. No.	Change of Part No. SU-8088 → SU-8088K		Part Name & Description
		TRANSFORMER	
T1	SLT5Q99	SLT5Q99	Transformer, Power Source (Except for [XE])
		SLT5Q101 [XE] only	Transformer, Power Source
		FUSE	
F2	XBA2C25TR0	XBA2C25TR0	Fuse, T2.5A (250V) Except for [XE]
		XBAS2A2502 [XE] only	Fuse, T2.5A (250V)
		CABINET and CHASSIS PARTS	
1	SBN773	SNB827	Knob, Volume Control
2	SBN771	SBN831	Knob, Balance, Bass & Treble Control
3	SBN769	SBN829	Knob, Selector Switches
4	SGWU8088M	SGWU8088KD	Panel, Front Ass'y (Balck)
10	SBD19	SBD19-1	Knob, Lever Switches
22	SKA10131	SKA10132	Cabinet
24	SJA97	SJA97	AC Cord, with Plug (Except for [XSW, XAL, XE])
		SJA111 [XSW] only	AC Cord, with Plug
	SJA111 [XSW]	QFC1207M [XAL] only	AC Cord, with Plug
		RJA45ZC [XE] only	AC Cord
25	SHR127	SHR127	Bushing, AC Cord (Except for [XAL, XE])
		SHR131 [XAL] only	Bushing, AC Cord
		SHR129 [XE] only	Bushing, AC Cord
29	SGPU8088W	SGPU8088KD	Rear Panel, SGPU8088W with Name Plate (SGT19551) Except for [X, XA, XAL]
		SGPU8088KX [X, XA] only	Rear Panel, SGP1530-1A with Name Plate (SGT19430)
	SGPU8088D	SGPU8088KL [XAL] only	Rear Panle, SGP1530-2B with Name Plate (SGT19430)
43	Addition	SJS601 [X, XA] only	Socket, AC Outlet
		SCREWS and WASHERS	
50	XTB3+8BFN	XTB3+8BFZ	Screw, Front Panel M'tg
52	XTB4+8FFN	XTB4+8BFZ	Screw, Cabinet M'tg
		PACKING PARTS	
P4	SPG1979 [XSW]	SPG2011 [XSW] only	Carton Box
	SPG1997 [XGF]	SPG2009	Carton Box, Except for [XSW]
	SPG1995		
		ACCESSORIES	
A1	Addition	SJP5213-1 [X, XA] only	Plug Adapter, Power Source
A2	Addition	SJP5215 [X, XA] only	Plug Adapter, Power Source

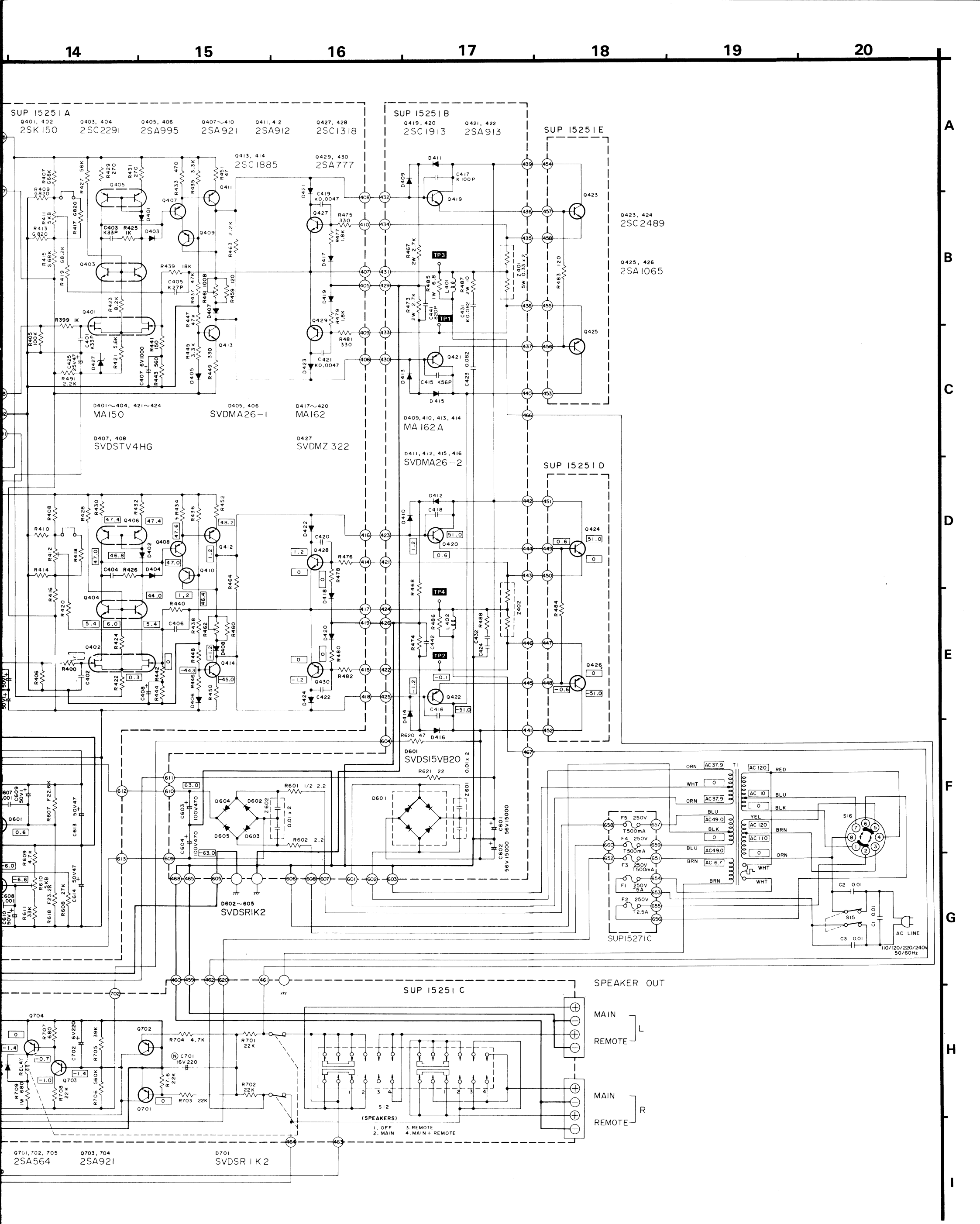
■ SCHEMATIC DIAGRAM ..... MODEL SU-8088 / SU-8088/K



NOTES

1. **S1** : Phono selector switch in **"phono 1 MC"** position.
   ① phono 1 MC ⟷ ② phono 1 MM ⟷ ③ phono 2 MM
2. **S2** : Recording selector switch in **"off"** position.
   ① aux ⟷ ② tuner ⟷ ③ phono ⟷ ④ off ⟷ ⑤ tape dubbing **1 ► 2** ⟷ ⑥ tape dubbing **2 ► 1**
3. **S3** : Input selector switch in **"phono"** position.
   ① aux ⟷ ② tuner ⟷ ③ phono ⟷ ④ tape **1** ⟷ ⑤ tape **2**
4. **S4** : Equalizer subsonic filter switch in **"off"** position.
5. **S5** : Mode switch in **"stereo"** position. (stereo ⟷ mono)
6. **S6** : Muting switch in **"0 dB"** position. (0 dB ⟷ 20 dB)
7. **S7** : Loudness switch in **"off"** position.
8. **S8** : Operation switch in **"straght DC"** position. (straight DC ⟷ via tone)
9. **S9** : Bass turnover frequency switch in **"500 Hz"** position. (500Hz ⟷ 125 Hz)
10. **S10** : Treble turnover frequency switch in **"2 kHz"** position. (2 kHz ⟷ 8 kHz)
11. **S11** : High filter switch in **"off"** position.
12. **S12** : Speakers switch in **"off"** position.
    ① off ⟷ ② main ⟷ ③ remote ⟷ ④ main + remote
13. **S13** : Meter range switch in **"X1"** position.
14. **S14** : Meter switch in **"dim"** position.
15. **S15** : Power switch in **"on"** position.
16. **S16** : Voltage adjuster switch in "240V" position.
    120V (④⑤⑧①) ⟷ 110V (③④⑦⑧) ⟷ 220V (③③、⑥⑦) ⟷ 240V (①②、⑤⑥)
    [ ] Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
    Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
17. This schematic diagram may be modified at any time with the development of new technology.
18. To represent transistors, Q is used instead of TR (Ex TR1 ➞ Q)


8
9
10
11
12
13
14
SUP 15231B
SUP 15251A
SUP 15231C
SUP 15231D
SUP 15231E
SUP 15271A
SUP 15271B
IC301 SVIM5213L
IC302 SVIM5213L
IC501 SVIBA 658
D301, 302
SVDMZ318
S9 (BASS TURN OVER)
S10 (TREBLE TURN OVER)
S11 (HIGH FILTER)
S7 (LOUDNESS)
S4 (EQ. SUBSONIC)
S5 (MODE)
STEREO
MONO
S6 (MUTING)
S8 (OPERATION)
S13(RANGE)
S14 (METER)
PRE OUT
MAIN IN
D608, 609
SVDGD4203SRD
(MUTING IND.)
OPERATION IND
D606
SVDMZ306
D607, 702
MA150
D401~404,
MA150
D407, 408
SVDSTV
Q401, 402
2SK150
Q403, 404
2SC2291
Q405
Q403
Q401
Q404
Q402
Q601
2SC1328
Q602
2SA722
Q603
2SC1980
Q604
2SA921
Q605
2SC1913
Q606
2SA913
Q501~504
2SC1815
Q505
2SA1015
Q506
2SC1983
D501, 502
20A99
D503
SVDMZ318
Q701, 702, 705
2SA564
Q703, 704
2SA921
PL
POWER IND
HEADPHONES
0dB ⟷ −20dB
via tone
straight DC
OFF
ON
L
R

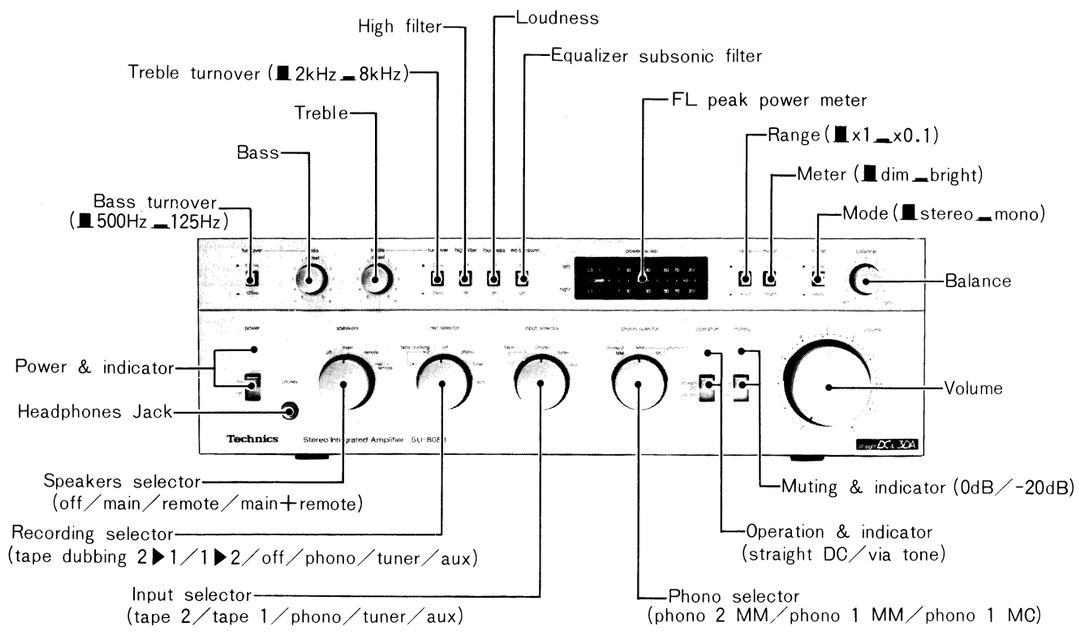

14
15
16
17
18
19
20
A
B
C
D
E
F
G
H
I
SUP 15251A
Q401, 402 2SK150
Q403, 404 2SC2291
Q405, 406 2SA995
Q407~410 2SA921
Q411, 412 2SA912
Q427, 428 2SC1318
Q413, 414 2SC1885
Q429, 430 2SA777
SUP 15251B
Q419, 420 2SC1913
Q421, 422 2SA913
SUP 15251E
Q423, 424 2SC2489
Q425, 426 2SA1065
D401~404, 421~424 MA150
D405, 406 SVDMA26-1
D417~420 MA162
D407, 408 SVDSTV4HG
D427 SVDMZ322
D409, 410, 413, 414 MA162A
D411, 412, 415, 416 SVDMA26-2
SUP 15251D
Q424, 426 2SC2489
Q427, 428 2SA1065
D601 SVDS15VB20
D602~605 SVDSRIK2
SUP15271C
SUP 15251C
SPEAKER OUT
MAIN L
REMOTE L
MAIN R
REMOTE R
Q701, 702, 705 2SA564
Q703, 704 2SA921
D701 SVDSR1K2
AC LINE
110/120/220/240V 50/60Hz

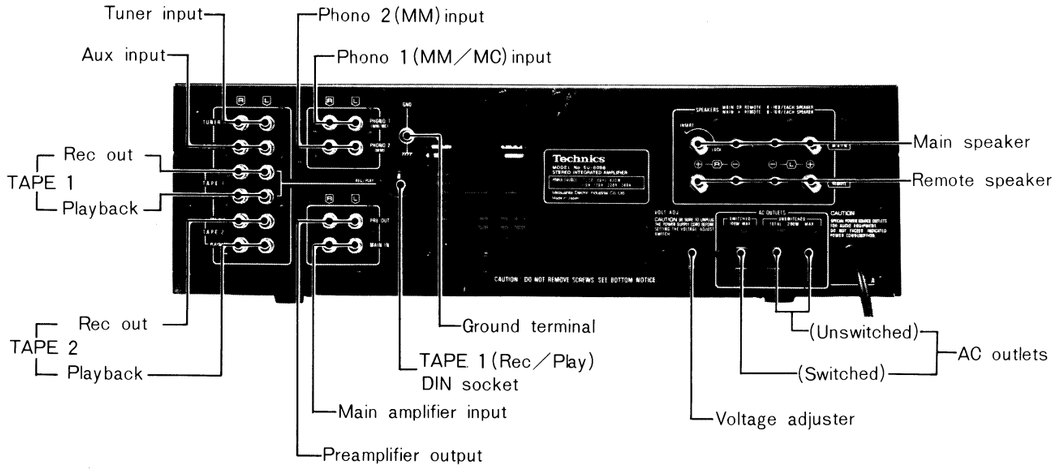
■ REPLACEMENT PARTS LIST ..... Electric Parts

NOTES 1: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.

Ref. No.		Part No.	Part Name & Description
			INTEGRATED CIRCUITS
IC301, 302		SVIM5213L	IC, Tone Amplifier
IC501, 502		SVIBA658	IC, Level Comparator
			TRANSISTORS
Q101, 102, 107, 108		2SC2385-G	Transistor, MC Amplifier (Use in ranks G or H) } Use in pair ranks as same as Q101 ~ 107 and 108.
Q103, 104, 105, 106		2SA978-G	Transistor, MC Amplifier (Use in ranks G or H) }
Q201, 202		2SK155-S	Transistor, Equalizer Amplifier [FET] (Use in ranks R, S or T)
Q203, 204, 205, 206, 601		**2SC1328-T**	Transistor, Equalizer Amplifier & Regulator (Use in ranks S, T or U)
Q207, 208		2SA921-T	Transistor, Equalizer Amplifier (Use in ranks S, T or U)
Q209, 210		**2SC1567-Q**	Transistor, Equalizer Amplifier (Use in ranks Q or R) } Use in pair ranks as same as Q209 ~ 211 and 212.
Q211, 212		**2SA794-Q**	Transistor, Equalizer Amplifier (Use in ranks Q or R) }
Q401, 402		2SK150-G	Transistor, Differential Amplifier [FET] (Use in ranks G or B)
Q403, 404		2SC2291N-G	Transistor, Cascade (Use in ranks F or G)
Q405, 406		2SA995N-G	Transistor, Current Mirror (Use in ranks F or G)
Q407, 408, 409, 410, 604, 703, 704		2SA921-T	Transistor, Power Drive, Regulator & Relay Driver (Use in ranks S, T or U)
Q411, 412		2SA912-R	Transistor, Power Drive Amplifier (Use in ranks Q, R or S)
Q413, 414		**2SC1885-R**	Transistor, Current Stabilizer (Use in ranks Q, R or S)
Q419, 420, 605		2SC1913-R	Transistor, Drive & Regulator (Use in ranks P, Q or R) } Use in pair ranks as same as Q419~422, 605 and 606.
Q421, 422, 606		2SA913-R	Transistor, Drive & Regulator (Use in ranks P, Q or R) }
Q423, 424		2SC2489-O	Transistor, Power Amplifier (Use in ranks O, P or Q) } Use in pair ranks as same as Q423 ~ 425 and 426.
Q425, 426		2SA1065-O	Transistor Power Amplifier (Use in ranks O, P or Q) }
Q427, 428		**2SC1318-R**	Transistor, Circuit Protection (Use in ranks Q, R or S)
Q429, 430		2SA777-Q	Transistor, Circuit Protection (Use in ranks Q or R)
Q501, 502, 503, 504		2SC1815-O	Transistor, Emitter Follower & Switching (Use in ranks Y or O)
Q505		2SA1015-O	Transistor, Switching (Use in ranks Y or O)
Q506		2SC1983	Transistor, Ripple Filter
Q602		**2SA902S-F**	Transistor, Regulator (Product Part No. 2SA722) (Use in ranks F or G)
Q603		2SC1980-T	Transistor, Regulator (Use in ranks Q, R, S or T)
Q701, 702, 705		**2SA666AI-R**	Transistor, Switching (Product Part No. 2SA564) (Use in ranks Q or R)
			DIODES
D101, 102		SVDMZ324B	Diode, Zener 24V
D301, 302		SVDMZ318	Diode, Zener 18V
D401 ~ 404, 421 ~ 424, 607, 702		MA150	Diode, Bias Supply & Protection Circuitry
D405, 406		SVDMA26-1	Diode, Bias Supply
D407, 408		SVDSTV4HG	Diode, Varistor
D409, 410, 413, 414		MA162A	Diode, Protection Circuitry
D411, 412, 415, 416		SVDMA26-2	Diode, Bias Supply
D417 ~ 420		MA162	Diode, Protection Circuitry
D427		SVDMZ322B	Diode, Zener 22V
D501, 502		2-OA99	Diode, Detector
D503		SVDMZ318A	Diode, Zener 18V
D601	⚠	SVDS15VB20	Rectifier
D602 ~ 605, 701	⚠	SVDSR1K2	Rectifier
D606		SVDMZ306B	Diode, Zener 6V
D608, 609		SVDGD4203SRD	Light Emitting Diode
			COILS and TRANSFORMER
L401, 402		SLQY15G-3P	Coil, Output
T1	⚠	SLT5Q99	Transformer, Power Source
			COMPONENT COMBINATIONS
Z401, 402	⚠	ERF5GEKR33N	Component Combination, 0.33Ω 5W (X2)
Z601, 602		EXRFS203ZS	Component Combination, 0.01μF (X2)
			VARIABLE RESISTORS
R303, 304		EWKK4A090252	Balance Control, 250kΩ (BH)
R311, 312		EWF81AF25BF5	Volume Control, 250kΩ (B)
R331, 332		EWF8XA063C15	Bass Control, 100kΩ (C)
R345, 346		EWF7XA063C15	Treble Control, 100kΩ (C)
R411, 412, 610		**EVLS0AA00B53**	DC Unbalance & Constant Voltage Adjustment, 5kΩ (B)
R461, 462		EVLS7AA00B12	ICA Adjustment, 100Ω (B)
R523, 524		**EVLS3AA00B13**	FL Power Meter, 1kΩ (B)
R529, 530		**EVLS3AA00B53**	FL Power Meter, 5kΩ (B)
			LAMP
PL1	⚠	**XAMR28T300**	Lamp, Power Indicator (7.5V 75mA)
			FUSES
F1	⚠	XBA2C50TR0	Fuse, T5A (250V)
F2	⚠	XBA2C25TR0	Fuse T2.5A (250V)
F3, 4, 5	⚠	XBA2C05TR0	Fuse, T500mA (250V)
			RELAY
RELAY	⚠	SSY19-1	Relay, Speaker Protection
			SWITCHES
S1		ESA2691	Switch, Phono Selector
S2, 3		ESA2682	Switch, Input & Recording Mode Selector
S4, 7, 10, 11		SSH421	Switch, Equalizer Subsonic Filter, Loudness, Treble Turn Over & High Filter
S5, 13, 14		SSH355	Switch, Mode, Meter Range & Bright/Dimmer
S6		SSL129	Switch, Muting
S8		SSL131	Switch, Operation Selector
S9		SSH99	Switch, Bass Turn Over
S12		ESA273	Switch, Speakers Selector
S15	⚠	ESL21182	Switch, Power Source
S16	⚠	ESE37200	Switch, Voltage Adjuster
			FL-METER
FL		SAD24A15YS	Meter, Fluorescence Peak Power

■ LOCATION OF CONTROLS





* This rear panel photo shows only the products for SU-8088K (X) and SU-8088K (XA).
* The products for other destinations except SU-8088K (X) and SU-8088K (XA) are not equipped with AC outlets.

Printed in Japan
7902 5600 ⓐ K

■ PRECAUTIONS FOR REPAIR

- Before repairing this unit, disconnect the power supply line and then short-circuit between the poles of electrolytic capacitor 15,000μF with resistor (about 100Ω, 3W) to discharge the capacitor.
  When replacing the power transistors, use 2SA1065 and 2SC2489 which are same in h_{FE} (Common Emitter Direct Current Gain) rank.
- When connecting the indicator connecting sockets for operation and muting to indicator LED's (D608, 609), be careful of the polarity. (See Fig. 1)

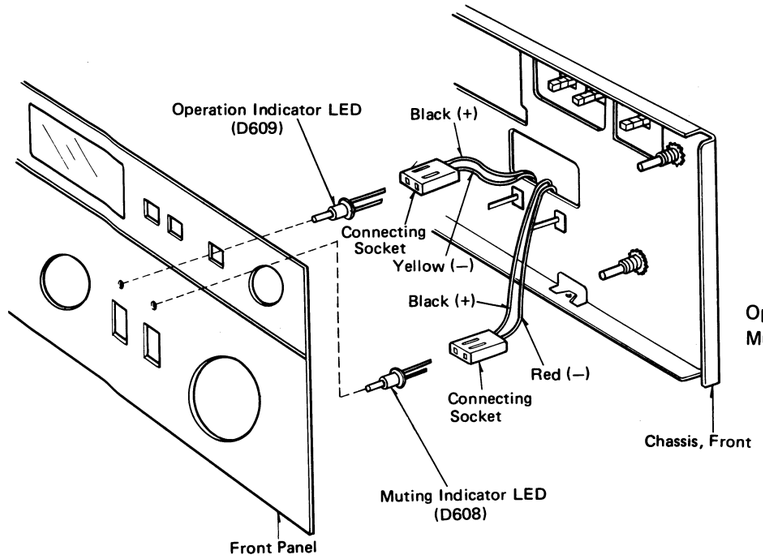
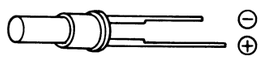


Fig. 1



D608, 609 (SVDGD4203SRD)

Operation . . . . . ⊕ Black, ⊖ Yellow
Muting . . . . . ⊕ Black, ⊖ Red

■ TO REMOVE THE REMOTE-SWITCH BANDS

1. Use a small screwdriver to push the projection of the remote-switch bands in the direction shown by the arrow in figure 2, and remove them from the remote switch.
2. When removing, remove Ⓐ in figure 3 first.
3. When attaching, attach Ⓑ in figure 3 first, and then install Ⓐ.
4. Check to be sure that the remote-switch bands are securely attached to the remote switch.

Note: When removing the remote-switch bands, be careful not to pull the bands nor to hold them as shown in Ⓒ of figure 2, because to do so may result in damage. Also be careful not to bend or twist the bands excessively.

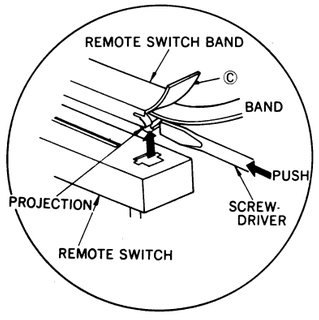


Fig. 2

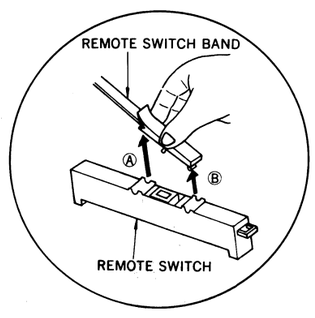


Fig. 3

■ HOW TO PREPARE LEAD-CONNECTOR SOCKETS

1. As shown in figure 4 Ⓐ, insert the lead wire into the terminal (part no. SJTA712).
2. As shown in figure 4 Ⓑ, press the terminal to secure the lead wire.
3. As shown in figure 4 Ⓒ, insert into a 3-pin socket (part no. SJS5317) or 2-pin socket (part no. SJS5209).
4. To remove from the socket, hold the terminal with a sharp-point tool such as a needle, as shown in figure 5, and pull out the lead wire at the same time.

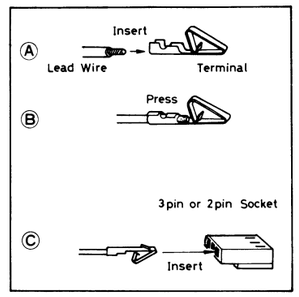


Fig. 4

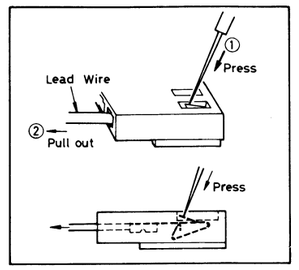


Fig. 5

■ TO REMOVE POWER TRANSISTOR

1. Remove the bottom board.
2. Remove four heat sink setscrews from the back of the set. (Fig. 6)
3. Pull out varistors (D407, D408) for thermal compensation which is inserted into the heat sink. (Fig. 7)
4. Pulling the heat sink upwards removes the 6-pin socket of P.C.B. Then the heat sink can be removed from the chassis.
5. Remove sub heat sinks (A) and (B) from the heat sink. (Fig. 8)
6. Remove the power transistor setscrews and pull it out of the heat sink. (Fig. 8)
7. When installing the power transistor, apply a heat diffuser to both sides of the mica plate beforehand.

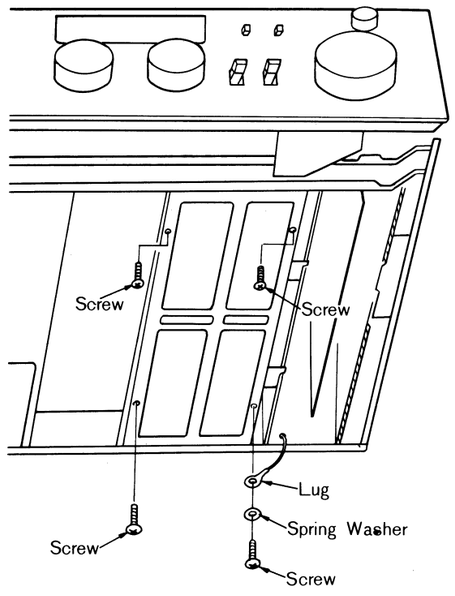


Fig. 6

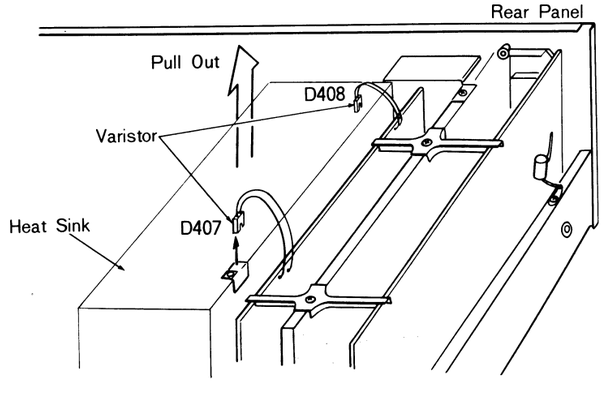
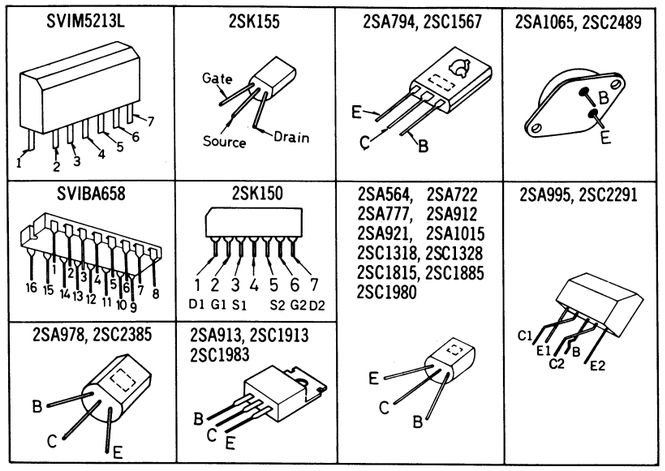
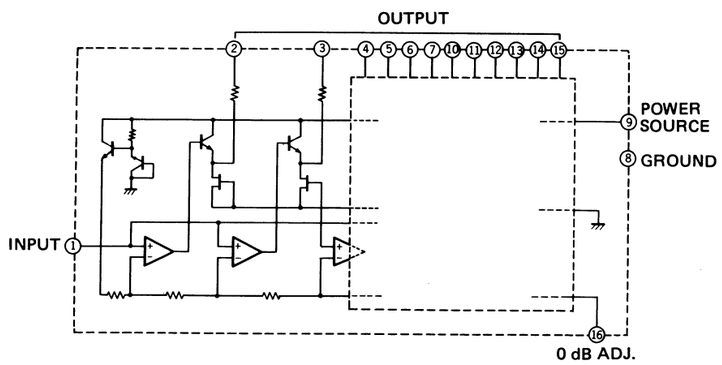


Fig. 7

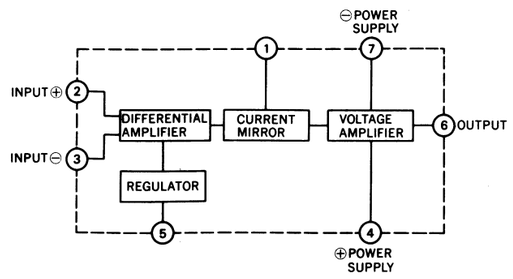
■ TERMINAL GUIDE OF TRANSISTORS AND IC'S



■ BLOCK DIAGRAM OF IC'S

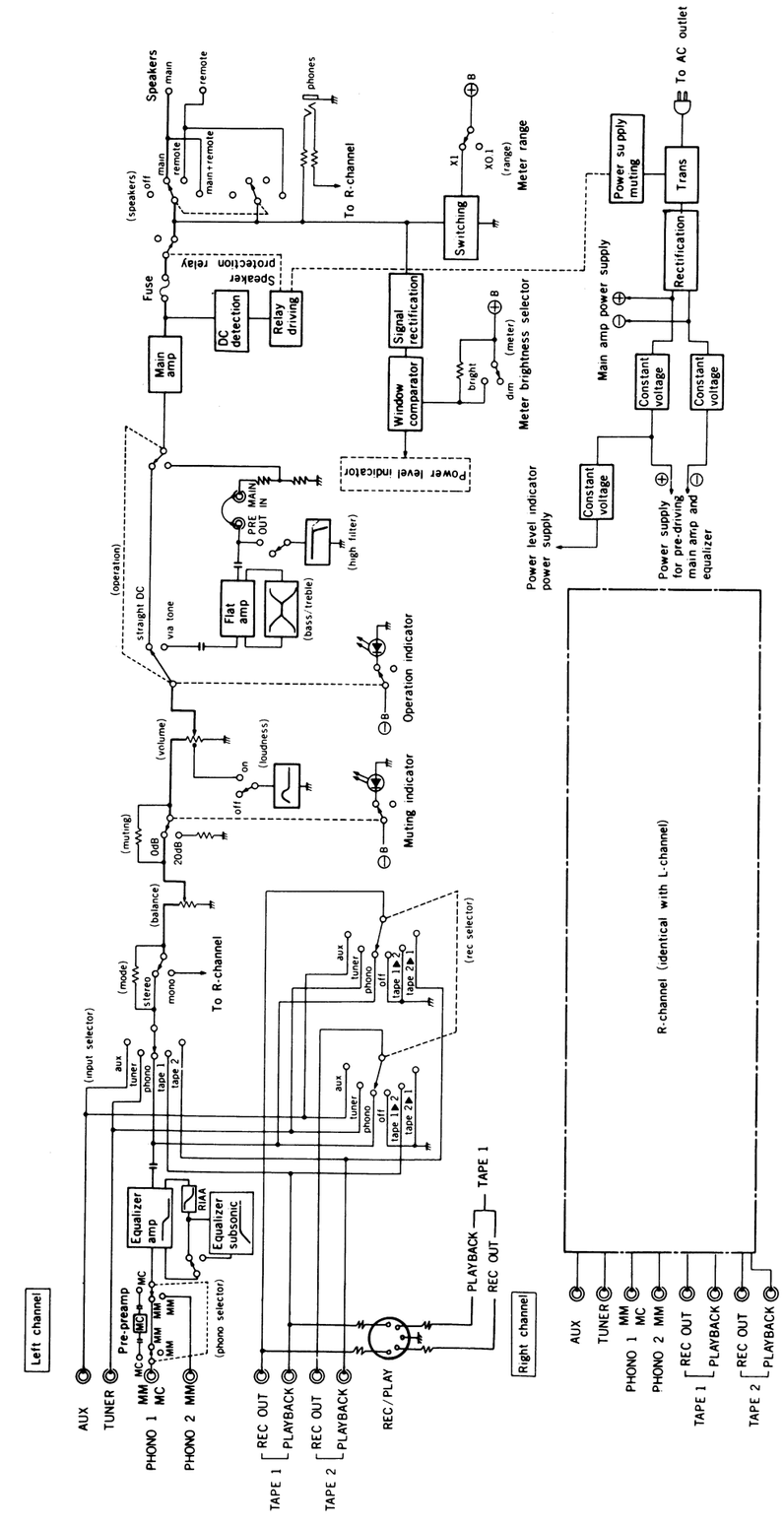


IC501, 502 (SVIBA658)
Level comparator



IC301, 302 (SVIM5213L)
Tone amplifier

■ BLOCK DIAGRAM



■ INSTRUCTIONS D'ALGNMENT ■■■■■■■■ FRANÇAIS ■■■■■■■■

1. Réglage de la tension CC déséquilibrée (Temps mort du transformateur d'alimentation.

- **Conditions de l'appareil et équipement utilisé**

1. Commutateur de fonctionnement ..... Straight DC
2. Commutateur du haut-parleur ..... Principal
3. Volume du son ..... 0 (minimum)
4. Voltmètre CC
5. Résistance de 8 ohms de charge (utilisée seulement pour le réglage de la tension CC déséquilibrée)

Réglages	Branchements du voltmétre CC	Sections à régler	Procédé de réglage
Source d'alimentation à tension constante	Brancher la borne (+) du voltmétre CC à la borne N° 151 et la borne (—) à la masse.	R610	(1) Régler la tension à (+) 48V entre la borne 151 et la masse. (2) A ce moment, vérifier que la tension entre la borne 152 et la masse, est de (—) 47V à (—) 48,5V.
Tension CC non équilibrée de l'amplificateur d'alimentation	Brancher le compteur aux bornes du haut-parleur des canaux gauche et droit, en paralléle avec une résistance de charge de 8 ohms.	R411 (Canal G) R412 (Canal D)	(1) Placer le compteur sur "O" avec la gamme de mesure aussi petite que possible. Note: S'il ne peut pas être ajusté, couper le fil volant J2 (canal gauche) et J3 (canal droit) avant le réglage.
ICQ (Courant de temps mort du transformateur d'alimentation)	Côté (+) .... TP3 } Canal G Côté (—) .... TP1 } Côté (+) ..... TP4 } Canal D Côté (—) .... TP2 }	R461 (Cacal G) R462 (Canal D)	Le régler à environ 15mV quelques minutes aprés avoir branché la source d'alimentation.

2. Réglage du compteur d'alimentation FL

- **Conditions de l'appareil et équipement utilisé**

1. Sélecteur d'entrée ..... Commande d'accord
2. Commutateur de l'enceinte ..... Principal
3. Commutateur de la gamme du compteur ..... x0,1 ou x 1
4. Commutateur de luminosité du compteur ..... faible ou clair
5. Volume du son ..... 10 maxi.
6. Oscillateur de basse fréquence
7. Voltmètre électronique CA
8. Résistance de 8 ohms de charge

2.1 Réglage de 0,03W

1) Brancher l'oscillateur de basse fréquence aux bornes de la commande d'accord des deux canaux; et le voltmètre électronique aux bornes de l'enceinte en paralléle avec la résistance de change.
2) Placer le commutateur de gamme du compteur sur "X0,1" et le commutateur de luminosité sur "dim"
3) Alimenter un signal de 1 kHz par l'oscillateur de basse fréquence et régler le niveau d'entrée de telle sorte que le voltmètre électronique indique 0,75V.
4) Régler le R523 (Canal gauche) tout en observant le compteur d'alimentation FL jusqu'à ce que le premier segment soit sur le point d'être branché. (0,3 x 0,1 W).
5) De la même façon, faire le réglage de R524 (Canal droit). A cette étape, si l'indication du canal gauche varie, corriger R523.

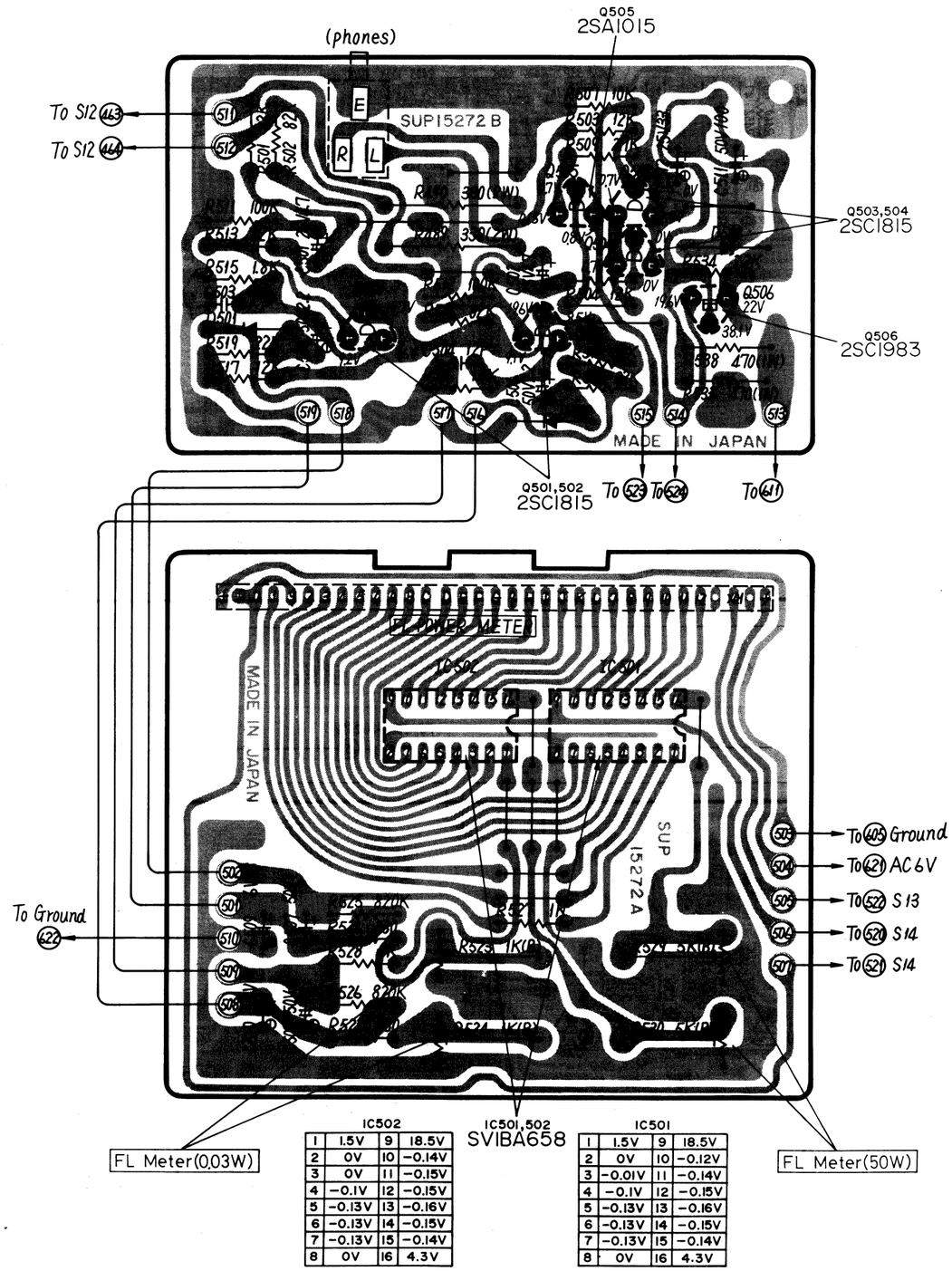
Note: Quand le rélage a été fait de telle sorte que le second segment est sur le point d'être branché, le premier segment s'allume sans entrée.

2.2 Réglage de 50W

1) Régler le commutateur de gamme du compteur sur "X1" et le commutateur de luminosité sur "bright".
2) Régler le niveau d'entrée de telle sorte que le compteur électronique indique 19V.
3) Faire le réglage de la même façon que le réglage mentionné dans le paragraphe 2-1 en réglant R529 (Canal gauche) et R530 (Canal droit) de telle sorte que le neuvième segment (dans la position de ROW) soit sur le point d'être branché.
4) Effectuer le réglage comme dans le paragraphe 2-1 (0,03W) en réglant le niveau d'entrée.
5) De nouveau régler le niveau d'entrée pour donner une sortie de 19V et s'assurer que le segment à la position 50W, est branché.

■ PRINTED CIRCUIT BOARD WIRING VIEW ..... FL-METER CIRCUITS

Earth (Ground) Lines



IC502

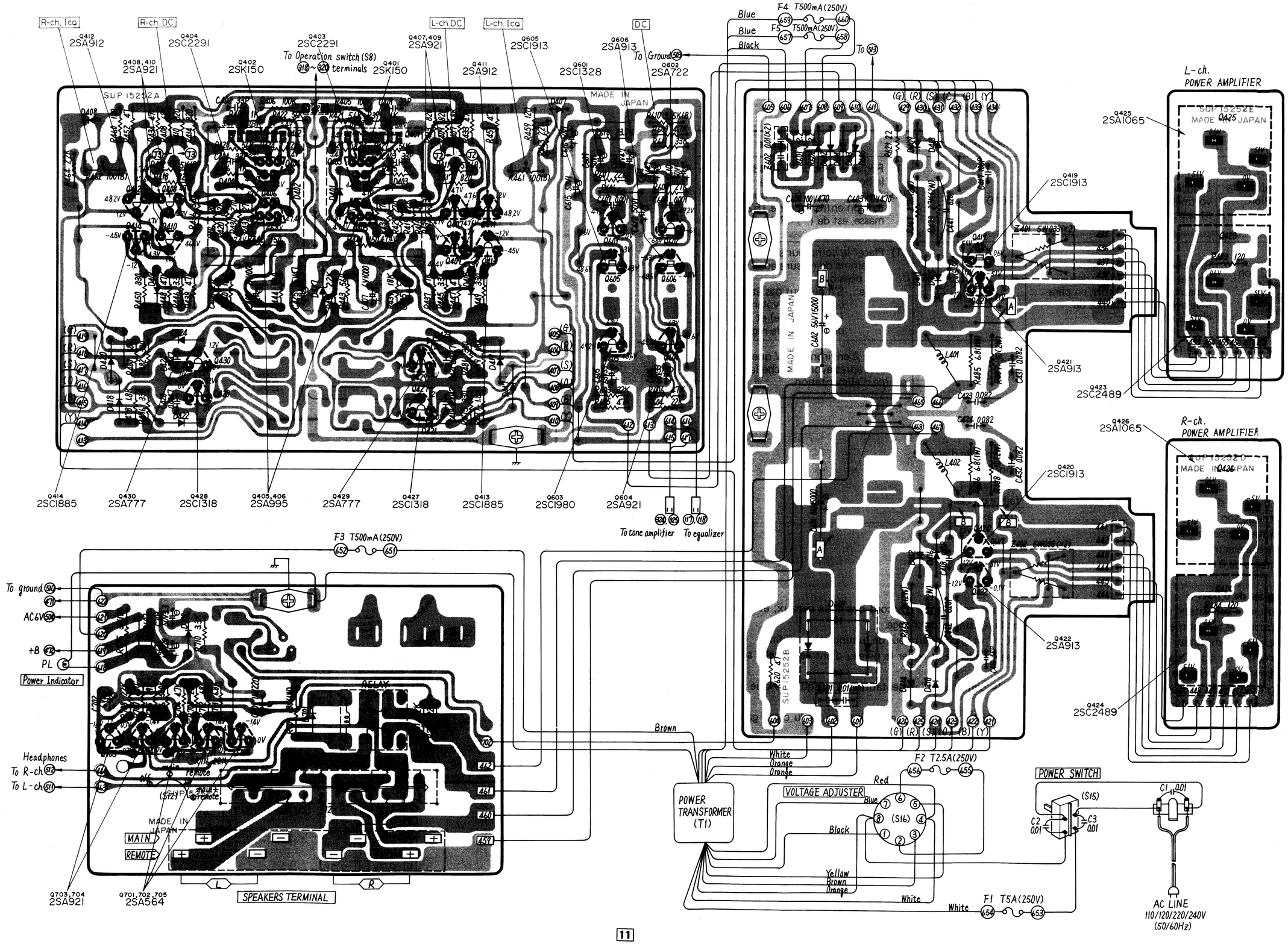
1	1.5V	9	18.5V
2	0V	10	−0.14V
3	0V	11	−0.15V
4	−0.1V	12	−0.15V
5	−0.13V	13	−0.16V
6	−0.13V	14	−0.15V
7	−0.13V	15	−0.14V
8	0V	16	4.3V

IC501

1	1.5V	9	18.5V
2	0V	10	−0.12V
3	−0.01V	11	−0.14V
4	−0.1V	12	−0.15V
5	−0.13V	13	−0.16V
6	−0.13V	14	−0.15V
7	−0.13V	15	−0.14V
8	0V	16	4.3V

■ PRINTED CIRCUIT BOARD WIRING VIEW ..... POWER SUPPLY & POWER AMPLIFIER CIRCUITS

Earth (Ground) Lines



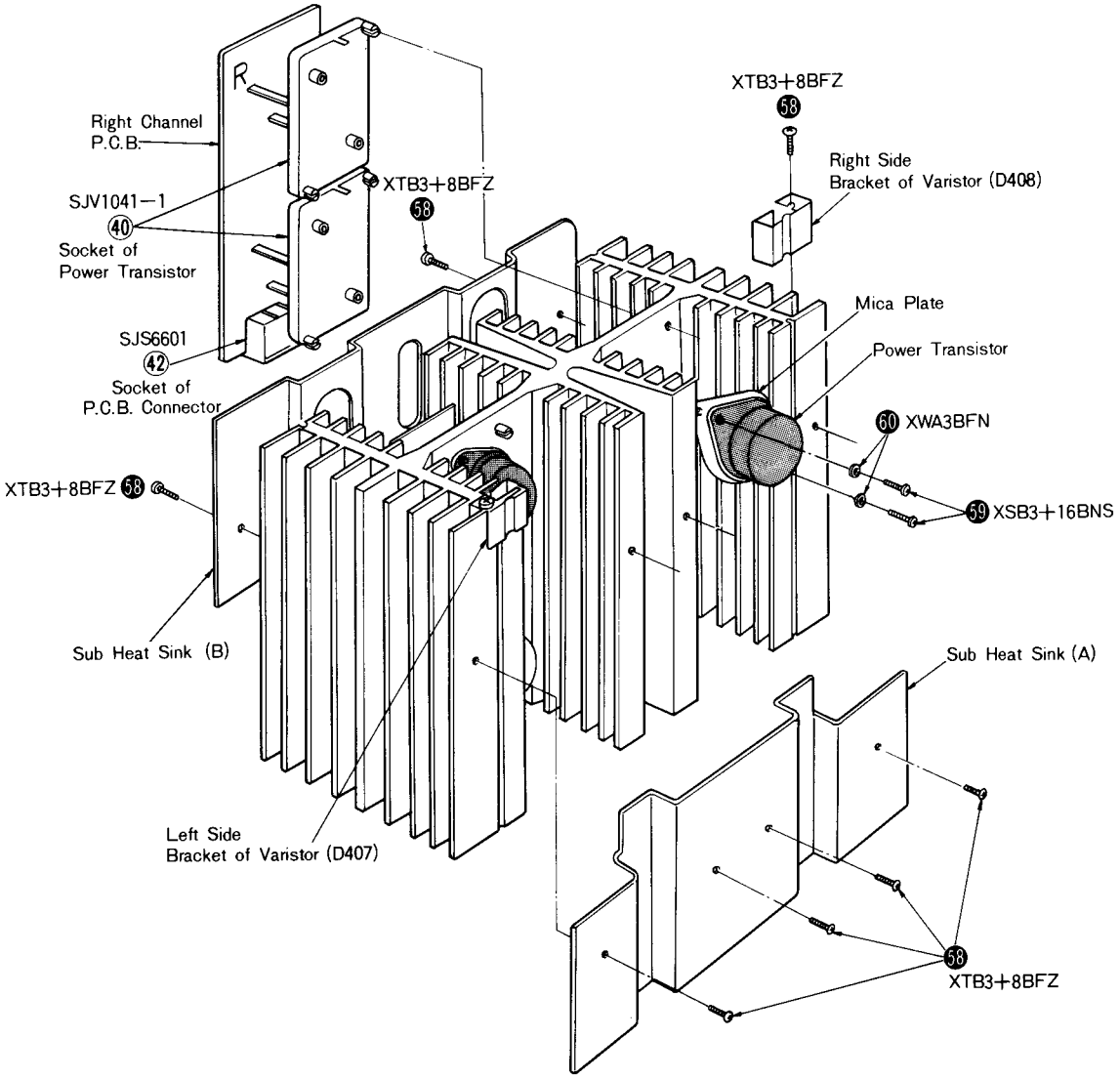


Fig. 8

■ TO REMOVE EQUALIZER AMPLIFIER P.C.B.

1. Remove two metal fittings used to secure the equalizer amplifier P.C.B. and the main amplifier P.C.B. (Fig. 9)
2. Pull out the 2-pin socket inserted into the equalizer amplifier P.C.B. And then remove the lug terminal fastening the electric capacitor.
3. Remove six setscrews used to secure the tuner, aux, tape deck 1 and 2 connection terminal of rear panel. (Fig. 9)
4. Remove the equalizer amplifier P.C.B.
5. The main amplifier P.C.B. can be detached by removing two setscrews used to secure the chassis. (Screws Ⓑ and Ⓒ in Fig. 9)

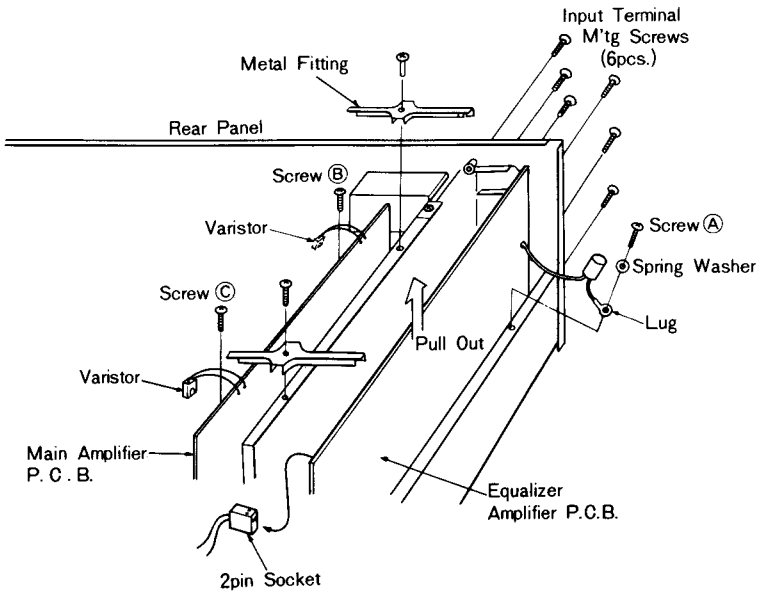


Fig. 9

■ REPLACEMENT PARTS LIST ..... Electric Parts

NOTES 1: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.

Ref. No.		Part No.	Part Name & Description
INTEGRATED CIRCUITS			
IC301, 302		SVIM5213L	IC, Tone Amplifier
IC501, 502		SVIBA658	IC, Level Comparator
TRANSISTORS			
Q101, 102, 107, 108		2SC2385-G	Transistor, MC Amplifier (Use in ranks G or H) } Use in pair ranks as same as Q101 ~ 107 and 108.
Q103, 104, 105, 106		2SA978-G	Transistor, MC Amplifier (Use in ranks G or H) }
Q201, 202		2SK155-S	Transistor, Equalizer Amplifier [FET] (Use in ranks R, S or T)
Q203, 204, 205, 206, 601		**2SC1328-T**	Transistor, Equalizer Amplifier & Regulator (Use in ranks S, T or U)
Q207, 208		2SA921-T	Transistor, Equalizer Amplifier (Use in ranks S, T or U)
Q209, 210		**2SC1567-Q**	Transistor, Equalizer Amplifier (Use in ranks Q or R) } Use in pair ranks as same as Q209 ~ 211 and 212
Q211, 212		**2SA794-Q**	Transistor, Equalizer Amplifier (Use in ranks Q or R) }
Q401, 402		2SK150-G	Transistor, Differential Amplifier [FET] (Use in ranks G or B)
Q403, 404		2SC2291N-G	Transistor, Cascade (Use in ranks F or G)
Q405, 406		2SA995N-G	Transistor, Current Mirror (Use in ranks F or G)
Q407, 408, 409, 410, 604, 703, 704		2SA921-T	Transistor, Power Drive, Regulator & Relay Driver (Use in ranks S, T or U)
Q411, 412		2SA912-R	Transistor, Power Drive Amplifier (Use in ranks Q, R or S)
Q413, 414		**2SC1885-R**	Transistor, Current Stabilizer (Use in ranks Q, R or S)
Q419, 420, 605		2SC1913-R	Transistor, Drive & Regulator (Use in ranks P, Q or R) } Use in pair ranks as same as Q419~422, 605 and 606.
Q421, 422, 606		2SA913-R	Transistor, Drive & Regulator (Use in ranks P, Q or R) }
Q423, 424		2SC2489-O	Transistor, Power Amplifier (Use in ranks O, P or Q) } Use in pair ranks as same as Q423 ~ 425 and 426.
Q425, 426		2SA1065-O	Transistor Power Amplifier (Use in ranks O, P or Q) }
Q427, 428		**2SC1318-R**	Transistor, Circuit Protection (Use in ranks Q, R or S)
Q429, 430		2SA777-Q	Transistor, Circuit Protection (Use in ranks Q or R)
Q501, 502, 503, 504		2SC1815-O	Transistor, Emitter Follower & Switching (Use in ranks Y or O)
Q505		2SA1015-O	Transistor, Switching (Use in ranks Y or O)
Q506		2SC1983	Transistor, Ripple Filter
Q602		**2SA902S-F**	Transistor, Regulator (Product Part No. 2SA722) (Use in ranks F or G)
Q603		2SC1980-T	Transistor, Regulator (Use in ranks Q, R, S or T)
Q701, 702, 705		**2SA666AI-R**	Transistor, Switching (Product Part No. 2SA564) (Use in ranks Q or R)
DIODES			
D101, 102		SVDMZ324B	Diode, Zener 24V
D301, 302		SVDMZ318	Diode, Zener 18V
D401 ~ 404, 421 ~ 424, 607, 702		MA150	Diode, Bias Supply & Protection Circuitry
D405, 406		SVDMA26-1	Diode, Bias Supply
D407, 408		SVDSTV4HG	Diode, Varistor
D409, 410, 413, 414		MA162A	Diode, Protection Circuitry
D411, 412, 415, 416		SVDMA26-2	Diode, Bias Supply
D417 ~ 420		MA162	Diode, Protection Circuitry
D427		SVDMZ322B	Diode, Zener 22V
D501, 502		2-OA99	Diode, Detector
D503		SVDMZ318A	Diode, Zener 18V
D601	⚠	SVDS15VB20	Rectifier
D602 ~ 605, 701	⚠	SVDSR1K2	Rectifier
D606		SVDMZ306B	Diode, Zener 6V
D608, 609		SVDGD4203SRD	Light Emitting Diode
COILS and TRANSFORMER			
L401, 402		SLQY15G-3P	Coil, Output
T1	⚠	SLT5Q99	Transformer, Power Source
COMPONENT COMBINATIONS			
Z401, 402	⚠	ERF5GEKR33N	Component Combination, 0.33Ω 5W (X2)
Z601, 602		EXRFS203ZS	Component Combination, 0.01μF (X2)
VARIABLE RESISTORS			
R303, 304		EWKK4A090252	Balance Control, 250kΩ (BH)
R311, 312		EWF81AF25BF5	Volume Control, 250kΩ (B)
R331, 332		EWF8XA063C15	Bass Control, 100kΩ (C)
R345, 346		EWF7XA063C15	Treble Control, 100kΩ (C)
R411, 412, 610		**EVLS0AA00B53**	DC Unbalance & Constant Voltage Adjustment, 5kΩ (B)
R461, 462		EVLS7AA00B12	ICA Adjustment, 100Ω (B)
R523, 524		**EVLS3AA00B13**	FL Power Meter, 1kΩ (B)
R529, 530		**EVLS3AA00B53**	FL Power Meter, 5kΩ (B)
LAMP			
PL1	⚠	**XAMR28T300**	Lamp, Power Indicator (7.5V 75mA)
FUSES			
F1	⚠	XBA2C50TR0	Fuse, T5A (250V)
F2	⚠	XBA2C25TR0	Fuse T2.5A (250V)
F3, 4, 5	⚠	XBA2C05TR0	Fuse, T500mA (250V)
RELAY			
RELAY	⚠	SSY19-1	Relay, Speaker Protection
SWITCHES			
S1		ESA2691	Switch, Phono Selector
S2, 3		ESA2682	Switch, Input & Recording Mode Selector
S4, 7, 10, 11		SSH421	Switch, Equalizer Subsonic Filter, Loudness, Treble Turn Over & High Filter
S5, 13, 14		SSH355	Switch, Mode, Meter Range & Bright/Dimmer
S6		SSL129	Switch, Muting
S8		SSL131	Switch, Operation Selector
S9		SSH99	Switch, Bass Turn Over
S12		ESA273	Switch, Speakers Selector
S15	⚠	ESL21182	Switch, Power Source
S16	⚠	ESE37200	Switch, Voltage Adjuster
FL-METER			
FL		SAD24A15YS	Meter, Fluorescence Peak Power

RESISTORS

Ref. No.		Part No.	Part Name & Description
R101, 102		**ERD25TJ470**	Carbon, 47kΩ, 1/4W, ± 5%
R103, 104		**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R105, 106		**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R107, 108		**ERD25TJ8R2**	Carbon, 8.2Ω, 1/4W, ± 5%
R109, 110		ERO25CKF1001	Metal Film, 1kΩ, 1/4W, ± 1%
R111, 112		ERO25CKF1001	Metal Film, 1kΩ, 1/4W, ± 1%
R113, 114		ERO25CKF6801	Metal Film, 6.8kΩ, 1/4W, ± 1%
R115, 116		ERO25CKF6801	Metal Film, 6.8kΩ, 1/4W, ± 1%
R117, 118		ERO25CKF5601	Metal Film, 5.6kΩ, 1/4W, ± 1%
R119, 120		**ERD25TJ221**	Carbon, 220Ω, 1/4W, ± 5%
R121, 122		ERO25CKF5601	Metal Film, 5.6kΩ, 1/4W, ± 1%
R123, 124		**ERD25TJ181**	Carbon, 180Ω, 1/4W, ± 5%
R125, 126		**ERD25TJ181**	Carbon, 180Ω, 1/4W, ± 5%
R127, 128		**ERD25TJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%
R151, 152	⚠	ERD50FJ332	Carbon, 3.3kΩ, 1/2W, ± 5%
R153, 154	⚠	ERD50FJ332	Carbon, 3.3kΩ, 1/2W, ± 5%
R155, 156		ERO25CKG2201	Metal Film, 2.2kΩ, 1/4W, ± 2%
R157	⚠	ERD50FJ222	Carbon, 2.2kΩ, 1/2W, ± 5%
R158	⚠	ERD50FJ471	Carbon, 470Ω, 1/2W, ± 5%
R159	⚠	ERD50FJ391	Carbon, 390Ω, 1/2W, ± 5%
R201, 202		**ERD25TJ220**	Carbon, 22Ω, 1/4W, ± 5%
R203, 204		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R205, 206		**ERD25TJ101**	Carbon, 100Ω, 1/4W, ± 5%
R207, 208		ERO25CKG4701	Metal Film, 4.7kΩ, 1/4W, ± 2%
R209, 210		**ERD25TJ182**	Carbon, 1.8kΩ, 1/4W, ± 5%
R211, 212		ERO25CKG1001	Metal Film, 1kΩ, 1/4W, ± 2%
R213, 214		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R215, 216		**ERD25TJ330**	Carbon, 33Ω, 1/4W, ± 5%
R217, 218		**ERD25TJ273**	Carbon, 27kΩ, 1/4W, ± 5%
R219, 220		**ERD25TJ124**	Carbon, 120kΩ, 1/4W, ± 5%
R221, 222		**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R223, 224	⚠	ERD25FJ102	Carbon, 1kΩ, 1/4W, ± 5%
R225, 226	⚠	ERD25FJ331	Carbon, 330Ω, 1/4W, ± 5%
R227, 228		**ERD25TJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%
R229, 230		**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R231, 232	⚠	ERQ12HJ470	Fuse type metallic, 47Ω, 1/2W, ± 5%
R233, 234	⚠	ERD25FJ470	Carbon, 47Ω, 1/4W, ± 5%
R235, 236		**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R237, 238		**ERD25TJ224**	Carbon, 220kΩ, 1/4W, ± 5%
R239, 240		ERO25CKF2671	Metal Film, 2.67kΩ, 1/4W, ± 1%
R241, 242		ERO25CKF3242	Metal Film, 32.4kΩ, 1/4W, ± 1%
R243, 244		**ERD25TJ220**	Carbon, 22Ω, 1/4W, ± 5%
R245, 246		**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%
R247, 248		**ERD25TJ680**	Carbon, 68Ω, 1/4W, ± 5%
R249, 250		**ERD25TJ471**	Carbon, 470Ω, 1/4W, ± 5%
R251, 252		**ERD25TJ471**	Carbon, 470Ω, 1/4W, ± 5%
R253, 254		**ERD25TJ470**	Carbon, 47Ω, 1/4W, ± 5%
R255, 256		**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%
R257, 258		**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%
R301, 302		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R305, 306		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R307, 308		**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R309, 310		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R313, 314		**ERD25TJ564**	Carbon, 560kΩ, 1/4W, ± 5%
R315, 316		**ERD25TJ124**	Carbon, 120kΩ, 1/4W, ± 5%
R317, 318		**ERD25TJ561**	Carbon, 560Ω, 1/4W, ± 5%
R319, 320		**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%
R321, 322		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R323, 324		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R325, 326		**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R327, 328		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R329, 330		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R333, 334		**ERD25TJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%
R335, 336		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R337, 338		**ERD25TJ334**	Carbon, 330kΩ, 1/4W, ± 5%
R339, 340		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R341, 342		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R343, 344		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R347, 348		**ERD25TJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R349, 350		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R351, 352		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R353, 354	⚠	ERD50FJ272	Carbon, 2.7kΩ, 1/2W, ± 5%
R355, 356		**ERD25TJ331**	Carbon, 330Ω, 1/4W, ± 5%
R361, 362		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R363, 364		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R399, 400		**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R401, 402		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R403, 404		**ERD25TJ392**	Carbon, 3.9kΩ, 1/4W, ± 5%
R405, 406		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%

Ref. No.		Part No.	Part Name & Description
R407, 408		ERO25CKG6802	Metal Film, 68kΩ, 1/4W, ± 2%
R409, 410		ERO25CKG8200	Metal Film, 820Ω, 1/4W, ± 2%
R413, 414		ERO25CKG8200	Metal Film, 820Ω, 1/4W, ± 2%
R415, 416		ERO25CKG6802	Metal Film, 68kΩ, 1/4W, ± 2%
R417, 418		ERO25CKG8200	Metal Film, 820Ω, 1/4W, ± 2%
R419, 420		ERO25CKG8201	Metal Film, 8.2kΩ, 1/4W, ± 2%
R421, 422		**ERD25TJ562**	Carbon, 5.6kΩ, 1/4W, ± 5%
R423, 424		**ERD25TJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%
R425, 426		**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R427, 428		**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%
R429, 430	⚠	ERD25FJ271	Carbon, 270Ω, 1/4W, ± 5%
R431, 432	⚠	ERD25FJ271	Carbon, 270Ω, 1/4W, ± 5%
R433, 434	⚠	ERD25FJ471	Carbon, 470Ω, 1/4W, ± 5%
R435, 436	⚠	ERD25FJ332	Carbon, 3.3kΩ, 1/4W, ± 5%
R437, 438		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R439, 440		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R441, 442	⚠	ERD25FJ151	Carbon, 150Ω, 1/4W, ± 5%
R443, 444		**ERD25TJ561**	Carbon, 560Ω, 1/4W, ± 5%
R445, 446		**ERD25TJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%
R447, 448		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R449, 450	⚠	ERD25FJ331	Carbon, 330Ω, 1/4W, ± 5%
R451, 452	⚠	ERD25FJ470	Carbon, 47Ω, 1/4W, ± 5%
R459, 460	⚠	ERD25FJ121	Carbon, 120Ω, 1/4W, ± 5%
R463, 464	⚠	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ± 5%
R467, 468		**ERG2ANJ272**	Metal Oxide, 2.7kΩ, 2W, ± 5%
R473, 474		**ERG2ANJ272**	Metal Oxide, 2.7kΩ, 2W, ± 5%
R475, 476	⚠	ERD25FJ331	Carbon, 330Ω, 1/4W, ± 5%
R477, 478	⚠	ERD25FJ182	Carbon, 1.8kΩ, 1/4W, ± 5%
R479, 480	⚠	ERD25FJ182	Carbon, 1.8kΩ, 1/4W, ± 5%
R481, 482	⚠	ERD25FJ331	Carbon, 330Ω, 1/4W, ± 5%
R483, 484	⚠	ERD25FJ121	Carbon, 120Ω, 1/4W, ± 5%
R485, 486		**ERX1ANJ6R8**	Metal Film, 6.8Ω, 1W, ± 5%
R487, 488		**ERG2ANJ100**	Metal Oxide, 10Ω, 2W, ± 5%
R489, 490		**ERG2ANJ331**	Metal Oxide, 330Ω, 2W, ± 5%
R491		**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R501, 502		**ERD25TJ823**	Carbon, 82kΩ, 1/4W, ± 5%
R503, 504		**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%
R505		**ERD25TJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R507		**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R509		**ERD25TJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R511, 512		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R513, 514		**ERD25TJ823**	Carbon, 82kΩ, 1/4W, ± 5%
R515, 516		**ERD25TJ182**	Carbon, 1.8kΩ, 1/4W, ± 5%
R517, 518		**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%
R519, 520		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R521, 522		**ERD25TJ331**	Carbon, 330Ω, 1/4W, ± 5%
R525, 526		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R527, 528		**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R531	⚠	ERD25FJ821	Carbon, 820Ω, 1/4W, ± 5%
R533		**ERG1ANJ471**	Metal Oxide, 470Ω, 1W, ± 5%
R534		**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R535		**ERG1ANJ330**	Metal Oxide, 33Ω, 1W, ± 5%
R537	⚠	ERD25FJ560	Carbon, 56Ω, 1/4W, ± 5%
R538		**ERG1ANJ471**	Metal Oxide, 470Ω, 1W, ± 5%
R601	⚠	ERQ12HJ2R2	Fuse Type Metallic, 2.2Ω, 1/2W, ± 5%
R602	⚠	ERD25FAJ2R2	Carbon, 2.2Ω, 1/4W, ± 5%
R603, 604		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R605, 606		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R607		ERO25CKF2262	Metal Film, 22.6kΩ, 1/4W, ± 1%
R608		**ERD25TJ273**	Carbon, 27kΩ, 1/4W, ± 5%
R609		**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R611		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R612, 613		**ERD25TJ561**	Carbon, 560Ω, 1/4W, ± 5%
R614, 615		**ERD25TJ181**	Carbon, 180Ω, 1/4W, ± 5%
R618		ERO25CKF2322	Metal Film, 23.2kΩ, 1/4W, ± 1%
R620	⚠	ERD25FJ470	Carbon, 47Ω, 1/4W, ± 5%
R621	⚠	ERD25FJ220	Carbon, 22Ω, 1/4W, ± 5%
R701, 702		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R703		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R704		**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R705		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R706		**ERD25TJ564**	Carbon, 560kΩ, 1/4W, ± 5%
R707		**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%
R708		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R709		**ERG1ANJ681**	Metal Oxide, 680Ω, 1W, ± 5%
R710		**ERD25TJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%
R711		**ERD25TJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R712		**ERD25TJ683**	Carbon, 68kΩ, 1/4W, ± 5%
R716		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%

Ref. No.		Part No.	Part Name & Description
R901		**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R903, 904		**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R905, 906		**ERD25TJ564**	Carbon, 560kΩ, 1/4W, ± 5%
R907, 908		**ERD25TJ104**	Carbon 100kΩ, 1/4W, ± 5%
CAPACITORS			
C1, 2, 3	⚠	ECKDHS103SE	Ceramic, 0.01μF, 400VAC, $^{+50}_{-20}$%
C4		**ECEA1AS331**	Electrolytic, 330μF, 10V
C100		**ECEAOJS221**	Electrolytic, 220μF, 10V
C101, 102		**ECEA1AS470**	Electrolytic, 47μF, 10V
C103, 104		**ECEA1AS470**	Electrolytic, 47μF, 10V
C105, 106		ECQM1H102KZ	Polyester, 0.001μF, 50V, ±10%
C107, 108		ECQM1H102KZ	Polyester, 0.001μF, 50V, ±10%
C109, 110		**ECEAOJS221**	Electrolytic, 220μF, 10V
C111, 112		**ECEAOJS221**	Electrolytic, 220μF, 10V
C113, 114		ECKD1H331KB	Ceramic, 330pF, 50V, ±10%
C115, 116		ECKD1H331KB	Ceramic, 330pF, 50V, ±10%
C117, 118		**ECEAOJS101**	Electrolytic, 100μF, 10V
C119, 120		**ECEAOJS101**	Electrolytic, 100μF, 10V
C121, 122	⚠	**ECEA16N100**	Non-Polar Electrolytic, 10μF, 16V
C151, 152		**ECEA1VS330**	Electrolytic, 33μF, 35V
C153, 154		**ECEA1VS330**	Electrolytic, 33μF, 35V
C155		**ECEA16Z10**	Electrolytic, 10μF, 16V
C156		**ECEA1HS101**	Electrolytic, 100μF, 50V
C201, 202		ECCD1H820K	Ceramic, 82pF, 50V, ±10%
C203, 204		ECQM1H332KZ	Polyester, 0.0033μF, 50V ±10%
C205, 206		**ECEA1ES101**	Electrolytic, 100μF, 25V
C207, 208		**ECEA1HS100**	Electrolytic, 10μF, 50V
C209, 210		ECKD1H561KB	Ceramic, 560pF, 50V, ±10%
C211, 212		ECCD1H101K	Ceramic, 100pF, 50V, ±10%
C213, 214		ECCD1H151K	Ceramic, 150pF, 50V, ±10%
C215, 216		**ECEA0JS102**	Electrolytic, 1000μF, 63V
C217, 218		**ECEA1HS010**	Electrolytic, 1μF, 50V
C219, 220		**ECEA1VS330**	Electrolytic, 33μF, 35V
C221, 222	⚠	**ECEA50N1**	Non-Polar Electrolytic, 1μF, 50V
C223, 224		ECQM1H102KZ	Polyester, 0.001μF, 50V, ±10%
C225, 226		ECQP1273GZ	Polyproylene, 0.027μF, 100V, ± 2%
C227, 228		ECQM1H102JZ	Polyester, 0.001μF, 50V, ± 5%
C229, 230		ECQP1104GZ	Polypropylene, 0.1μF, 100V, ± 2%
C231, 232		**ECEA1AS470**	Electrolytic, 47μF, 10V
C233, 234		**ECEA0JS102**	Electrolytic, 1000μF, 6.3V
C235, 236		**ECEAOJS221**	Electrolytic, 220μF, 10V
C237, 238		**ECEA1HS470**	Electrolytic, 47μF, 50V
C301, 302		ECQM1H682KZ	Polyester, 0.0068μF, 50V, ±10%
C303, 304		ECEA50MR68R	Electrolytic, 0.68μF, 50V
C305, 306		ECKD1H221KB	Ceramic, 220pF, 50V, ±10%

Ref. No.		Part No.	Part Name & Description
C307, 308		ECCD1H120K	Ceramic, 12pF, 50V, ±10%
C309, 310		ECEA50M3R3R	Electrolytic, 3.3μF, 50V
C311, 312	⚠	ECEA50NR68	Non-Polar Electrolytic, 0.68μF, 50V
C313, 314	⚠	**ECEA16N47**	Non-Polar Electrolytic, 47μF, 16V
C315, 316		ECQM1H123KZ	Polyester, 0.012μF, 50V, ±10%
C317, 318		ECQM1H333KZ	Polyester, 0.033μF, 50V, ±10%
C319, 320		ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%
C321, 322		ECQM1H393KZ	Polyester, 0.039μF, 50V, ±10%
C323, 324		ECQM1H124KZ	Polyester, 0.12μF, 50V, ±10%
C325, 326		ECKD1H561KB	Ceramic, 560pF, 50V, ±10%
C327, 328		ECQM1H392KZ	Polyester, 0.0039μF, 50V, ±10%
C329, 330		ECQM1H152KZ	Polyester, 0.0015μF, 50V, ±10%
C331, 332		ECQM1H123KZ	Polyester, 0.012μF, 50V, ±10%
C333, 334		**ECEA1HS010**	Electrolytic, 1μF, 50V
C400		**ECEAOJS330**	Electrolytic, 33μF, 16V
C401, 402		ECCD2H330K	Ceramic, 33pF, 500V, ±10%
C403, 404		ECCD2H330K	Ceramic, 33pF, 500V, ±10%
C405, 406		ECCD2H270K	Ceramic, 27pF, 500V, ±10%
C407, 408		**ECEA0JS102**	Electrolytic, 1000μF, 6.3V
C415, 416		ECCD2H560K	Ceramic, 56pF, 500V, ±10%
C417, 418		ECCD2H101K	Ceramic, 100pF, 500V, ±10%
C419, 420		ECQM1H472KZ	Polyester, 0.0047μF, 50V, ±10%
C421, 422		ECQM1H472KZ	Polyester, 0.0047μF, 50V, ±10%
C423, 424		ECQM1H823KZ	Polyester, 0.082μF, 50V, ±10%
C425		**ECEA1ES470**	Electrolytic, 47μF, 25V
C431, 432		ECQM1H823KZ	Polyester, 0.082μF, 50V, ±10%
C441, 442		ECKD1H821KB	Ceramic, 820pF, 50V, ±10%
C501, 502		**ECEA1ES4R7**	Electrolytic, 4.7μF, 25V
C503, 504		ECCD1H120K	Ceramic, 12pF, 50V, ±10%
C505, 506		**ECEA1HS2R2**	Electrolytic, 2.2μF, 50V
C507, 508		**ECEA1HS010**	Electrolytic, 1μF, 50V
C509, 510		**ECEA0JS330**	Electrolytic, 33μF, 16V
C511		**ECEA1HS101**	Electrolytic, 100μF, 50V
C512		**ECEA1ES330**	Electrolytic, 33μF, 35V
C601, 602		ECEM56R153U	Electrolytic, 15000μF, 56V
C603, 604		**ECEA2AS471**	Electrolytic, 470μF, 100V
C605, 606		**ECEA1JS330**	Electrolytic, 33μF, 63V
C607, 608		ECQM1H102KZ	Polyester, 0.001μF, 50V, ±10%
C609, 610		**ECEA1HS010**	Electrolytic, 1μF, 50V
C612		**ECEA1HS010**	Electrolytic, 1μF, 50V
C613, 614		**ECEA1HS470**	Electrolytic, 47μF, 50V
C615, 616		**ECEA1HS010**	Electrolytic, 1μF, 50V
C617		**ECEA1AS221**	Electrolytic, 220μF, 10V
C701	⚠	**ECEA16N220**	Non-Polar Electrolytic, 22μF, 16V
C702		**ECEA0JS221**	Electrolytic, 220μF, 10V
C703		**ECEA50M3R3R**	Electrolytic, 3.3μF, 50V

ORDER NO. SD7902-1516

Service Manual

Stereo Integrated Amplifier

SU-8088/K

Tentative

SU-8088K

(D), (DG), (EB), (XSW), (XE), (X), (XA), (XAL)

* The models SU-8088 (D, DG) and SU-8088K (D, DG) are available in Scandinavia and European only.
* The models SU-8088 (EB) and SU-8088K (EB) are available in Belgium only.
* The models SU-8088 (XSW) and SU-8088K (XSW) are available in Switzerland only.
* The model SU-8088 (XGF) is available in France only.
* The model SU-8088 (XGH) is available in Holland only.
* The model SU-8088K (XE) is available in United Kingdom only.
* The models SU-8088K (X, XA) are available in Asia, Latin America, Middle East and Africa only.
* The model SU-8088K (XAL) is available in Australia only.

TECHNICAL SPECIFICATIONS Specifications are subject to change without notice for further improvement.

[DIN 45 500]

AMPLIFIER SECTION

20Hz ~ 20kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
40 Hz ~ 16 kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
1 kHz continuous power output	
both channels driven	2 x 95 W (4Ω), 2 x 85 W (8Ω)
Power bandwidth both channels driven, –3 dB	
	THD 0.02% 5Hz ~ 50 kHz (4Ω)
	THD 0.01% 5 Hz ~ 60 kHz (8Ω)
Total harmonic distortion	
rated power at 20 Hz ~ 20 kHz	0.02% (4Ω), 0.01% (8Ω)
rated power at 40 Hz ~ 16 kHz	0.01% (4Ω, 8Ω)
rated power at 1 kHz	0.01% (4Ω, 8Ω)
half power at 20 Hz ~ 20 kHz	0.007% (8Ω)
half power at 1 kHz	0.003% (8Ω)
–26 dB power at 1 kHz	0.07% (4Ω)
50mW power at 1 kHz	0.12% (4Ω)
Intermodulation distortion	
rated power at 250 Hz : 8 kHz = 4 : 1,4Ω	0.02%
rated power at 60 Hz : 7 kHz = 4 : 1, SMPTE, 8Ω	0.01%
Residual hum & noise (Straight DC)	0.3 mV (0.3 mV, IHF A)
Damping factor	25 (4Ω), 50 (8Ω)
Input sensitivity and impedance	
PHONO 1, 2 MM	2.5 mV/47 kΩ
PHONO 1 MC	100μV/47Ω
TUNER, AUX	200 mV/47 kΩ
TAPE 1, 2 (PLAYBACK), REC/PLAY	200 mV/47 kΩ
MAIN IN	1V/18 kΩ
PHONO maximum input voltage (1 kHz, RMS) MM	250 mV
MC	10 mV
S/N rated power at 4Ω	
PHONO 1, 2 MM	75 dB (90 dB, IHF A)
PHONO 1 MC	70 dB (78 dB, IHF A)
TUNER, AUX	92 dB (110 dB, IHF A)
S/N –26 dB power at 4Ω	
PHONO 1, 2 MM, PHONO 1 MC	67 dB
TUNER, AUX	69 dB
S/N 50 mW power at 4Ω	
PHONO 1, 2 MM, PHONO 1 MC	64 dB
TUNER, AUX	65 dB
Frequency response PHONO	RIAA standard curve
	30 Hz ~ 15 kHz, ±0.2 dB
TUNER, AUX, TAPE	20 Hz ~ 20 kHz, $^{+0}_{-0.1}$ dB
	0.5 Hz ~ 100 kHz, –1 dB
Tone controls BASS	50 Hz, +7.5 dB ~ –7.5 dB
TREBLE	20 kHz, +7.5 dB ~ –7.5 dB
Turnover frequency BASS	125 Hz, 500 Hz
TREBLE	2 kHz, 8 kHz
High filter	7 kHz, –6 dB/oct.
Subsonic filter	20 Hz, –12 dB/oct.
Loudness control (volume at –30 dB)	50 Hz, +7.5 dB
Output voltage and impedance PRE OUT	rated 1V, max. 7V
REC OUT	200 mV
REC/PLAY	30 mV/8.2 kΩ
Channel balance (250 Hz ~ 6300 Hz), AUX	±1.0 dB
Channel separation at 1 kHz, AUX	60 dB
Headphones output level and impedance	600 mV/330Ω
Load impedance MAIN or REMOTE	4 ~ 16Ω
MAIN + REMOTE	8 ~ 16Ω

GENERAL

Power consumption	330 W
Power supply (50 Hz/60 Hz)	110V/120V/220V/240V
Dimensions (W x H x D)	450 x 142 x 360 mm
	(17-23/32" x 5-19/32" x 14-3/16")
Weight	15 kg (33.1 lb.)

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

SU-8088/K

TECHNISCHE DATEN Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

[DIN 45 500]

VERSTÄRKERTEIL

Dauertonleistung bei 20 Hz ~ 20 kHz 2 x 90 W (4Ω)
beide Kanäle zusammen ausgesteuert 2 x 80 W (8Ω)

Dauertonleistung bei 40 Hz ~ 16 kHz 2 x 90 W (4Ω)
beide Kanäle zusammen ausgesteuert 2 x 80 W (8Ω)

Dauertonleistung bei 1 kHz 2 x 95 W (4Ω)
beide Kanäle zusammen ausgesteuert 2 x 85 W (8Ω)

Leistungsbandbreite
beide Kanäle zusammen ausgesteuert, –3 dB
THD 0,02% 5 Hz ~ 50 kHz (4Ω)
THD 0,01% 5 Hz ~ 60 kHz (8Ω)

Harmonische Verzerrungen
Nennausgangsleistung bei 20 Hz ~ 20 kHz
0,02% (4Ω), 0,01% (8Ω)
Nennausgangsleistung bei 40 Hz ~ 16 kHz 0,01% (4Ω, 8Ω)
Nennausgangsleistung bei 1 kHz 0,01% (4Ω, 8Ω)
Halber Ausgangsleistung bei 20 Hz ~ 20 kHz 0,007% (8Ω)
Halber Ausgangsleistung bei 1 kHz 0,003% (8Ω)
–26 dB Ausgangsleistung bei 1 kHz 0,07% (4Ω)
50 mW Ausgangsleistung bei 1 kHz 0,12% (4Ω)

Intermodulationsverzerrung
Nennausgangsleistung bei 250 Hz: 8kHz = 4:1, 4Ω 0,02%
Nennausgangsleistung bei 60Hz: kHz = 4:1, SMPTE 8Ω 0,01%

Brummen & Rauschen 0,3 mV (0,3 mV, IHF A)
Dämpfungsfaktor 25 (4Ω), 50 (8Ω)
Eingangsempfindlichkeit & Impedanz
PHONO 1, 2 MM 2,5 mV/47 kΩ
PHONO 1 MC 100μV/47Ω
TUNER, AUX 200 mV/47 kΩ
TAPE 2, REC/PLAY 200 mV/47 kΩ
TAPE 2 200 mV/47 kΩ
MAIN IN 1V/18kΩ

PHONO Maximale Eingangsspannungen **MM** 250 mV
MC 10 mV

Frequenzang **PHONO** RIAA Standardkurve
30 Hz ~ 15 kHz, ±0,2 dB
TUNER, AUX, TAPE 0,5 Hz ~ 100 kHz, –1 dB
20 Hz ~ 20 kHz, $^{+0}_{-0,1}$ dB

Fremdspannungsabstand
Nennausgangsleistung bei 4Ω
PHONO 1, 2 MM 75 dB (90 dB, IHF A)
PHONO 1 MC 70 dB (78 dB, IHF A)
TUNER, AUX 92 dB (110 dB, IHF A)
–26 dB Ausgangsleistung bei 4Ω **PHONO 1, 2 MM** 67 dB
PHONO 1 MC 67 dB
TUNER, AUX 69 dB
50mW Ausgangsleistung bei 4Ω **PHONO 1, 2 MM** 64 dB
PHONO 1 MC 64 dB
TUNER, AUX 65 dB

Klangregler **BÄSSE** 50 Hz, +7,5 dB ~ –7,5 dB
HÖHEN 20 kHz, +7,5 dB ~ –7,5 dB

Übergangsfrequenz **BÄSSE** 125Hz, 500Hz
HÖHEN 2kHz, 8kHz

Höhenfilter (HIGH) 7 kHz, –6 dB/oct.
Unterschallfilter 20 Hz, –12 dB/oct.
Gehörgerechte Lautstärkekorrektur (Lautstärke bei –30 dB) 50 Hz, +7,5 dB

Ausgangsspannungen & Impedanz **PRE OUT** Nennleistung 1V, max. 7V
REC OUT 200 mV
REC/PLAY 30 mV/82 kΩ

Kanalabweichung (250 Hz ~ 6300 Hz), AUX ±1,0 dB
Kanaltrennung bei 1 kHz, AUX 60 dB
Köpfhörerpegel und Ausgangsimpedanz 600 mV/330Ω
Lautsprecher-Ausgangsimpedanz
MAIN oder REMOTE 4 ~ 16Ω
MAIN und REMOTE 8 ~ 16Ω

ALLGEMEINE DATEN

Leistungsaufnahme 830 W
Netzspannung umschaltbar (50 Hz/60Hz) 110V/120V/220V/240V
Abmessungen (B x H x T) 450 x 142 x 360 mm
Gewicht 15 kg

CARACTERISTIQUES TECHIQUES Sujet à changement sans préaris.

[DIN 45 500]

PARTIE AMPLIFICATEUR

Puissance (continue) à 20 Hz ~ 20 kHz
pour l'ensemble des canaux excités 2 x 90 W (4Ω)
2 x 80 W (8Ω)

Puissance (continue) à 40 Hz ~ 16 kHz
pour l'ensemble des canaux excités 2 x 90 W (4Ω)
2 x 80 W (8Ω)

Puissance (continue) à 1 kHz
pour l'ensemble des canaux excités 2 x 95 W (4Ω)
2 x 85 W (8Ω)

Largeur de bande de puissance
pour l'ensemble des canaux excités, –3 dB
THD 0,02% 5 Hz ~ 50 kHz (4Ω)
THD 0,01% 5 Hz ~ 60 kHz (8Ω)

Distorsion harmonique totale
pour la puissance mesurée à 20 Hz ~ 20 kHz
0,02% (4Ω), 0.01% (8Ω)
pour la puissance mesurée à 40 Hz ~ 16 kHz
0,01% (4Ω 8Ω)
pour la puissance mesurée à 1 kHz 0,01%(4Ω, 8Ω)
pour la demi-puissance mesurée à 20 Hz ~ 20 kHz
0,007% (8Ω)
pour la demi-puissance mesurée à 1 kHz 0,003% (8Ω)
pour une puissance mesurée de –26 dB, 1 kHz 0,07% (4Ω)
pour une puissance mesurée de 50 mW, 1 kHz 0,12% (4Ω)

Distorsion d'intermodulation
pour la puissance mesurée à 250 Hz: 8 kHz = 4:1, 4Ω 0,02%
pour la puissance mesurée à 60 Hz: 7 kHz = 4:1, 8Ω 0,01%

Tension résiduelle de bruit 0,3 mV (0,3 mV: IHF A)
Facteur d'amortissement 25 (4Ω), 50 (8Ω)
Sensibilité & impédance d'entrée
PHONO 1, 2 MM 2,5 mV/47 kΩ
PHONO 1 MC 100μV/47Ω
TUNER, AUX 200 mV/47 kΩ
TAPE 1, REC/PLAY 200 mV/47 kΩ
TAPE 2 200 mV/47 kΩ
MAIN IN 1V/18 kΩ

Voltage d'entrée maximum (PHONO, 1 kHz, RMS)
MM 250 mV
MC 10 mV

Réponse de fréquence
PHONO Courbe standard RIAA
30 Hz ~ 15 kHz, ±0,2 dB
TUNER, AUX, TAPE 0,5 Hz ~ 100 kHz, –1 dB
20 Hz ~ 20 kHz, $^{+0}_{-0,1}$ dB

Rapport signal/bruit
pour la puissance nominale, 4Ω
PHONO 1, 2 MM 75 dB (90 dB, IHF A)
PHONO 1 MC 70 dB (78 dB, IHF A)
TUNER, AUX 92 dB (110 dB, IHF A)
pour une sortie de –26 dB, 4Ω
PHONO 1, 2 MM 67 dB
PHONO 1 MC 67 dB
TUNER, AUX 69 dB
pour une sortie de 50 mW, 4Ω
PHONO 1, 2 MM 64 dB
PHONO 1 MC 64 dB
TUNER, AUX 65 dB

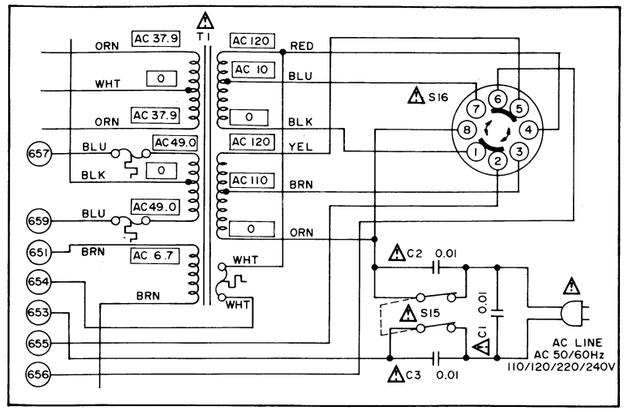
Réglage de la tonalité
BASS (graves) 50 Hz, + 7,5 dB ~ –7,5 dB
TREBLE (aigus) 20 kHz, + 7,5 dB ~ –7,5 dB
Fréquence charnière
BASS 125 Hz, 500 Hz
TREBLE 2 kHz, 8 kHz
Filtre subsonique 20 Hz, –12 dB/oct.
Filtre Aigu (HIGH) 7 kHz, – 6 dB/oct.
Correction physiologique (volume à –30 dB) 50 Hz, +7,5 dB
Tension de sortie & impédance **PRE OUT** nominal 1 V
maxi 7 V
REC OUT 200 mV
REC/PLAY 30 mV/82 kΩ
Equilibrage de canaux (250 Hz ~ 6300 Hz), AUX ±1,0 dB
Séparation des canaux, AUX 1 kHz 60 dB
Niveau de casque et impédance de sortie 600 mV/330Ω
Impédance de charge **PRINCIPALE ou ELOIGNEE** 4 ~ 16Ω
PRINCIPALE + ELOIGNEE 8 ~ 16Ω

GENERALITES

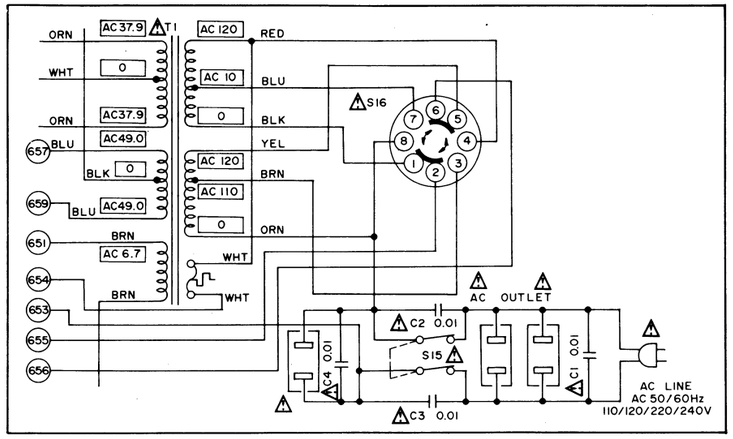
Consommation 830 W
Alimentation (50 Hz/60 Hz) 110V/120V/220V/240 V
Dimensions (L x H x Pr) 450 x 142 x 360 mm
Poids 15 kg

■ POWER SOURCE CIRCUITRY OF OTHER PRODUCTS

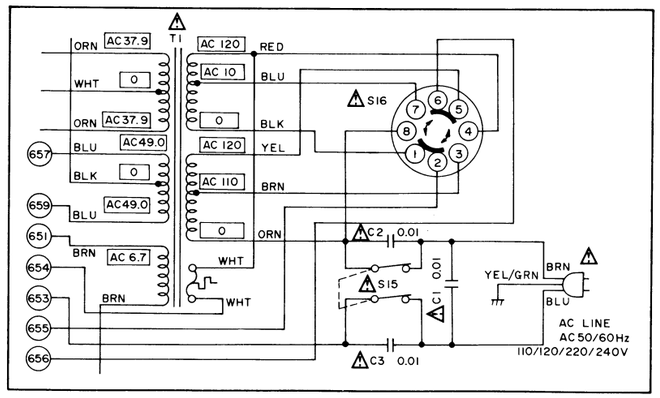
*** Power supply circuitry of products for [XE] only.**



*** Power supply circuitry of products for [X] and [XA] only.**



*** Power supply circuitry of products for [XAL] only.**



■ REPLACEMENT PARTS LIST ..... Cabinet and Chassis Parts

Notes: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts order.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.

Ref. No.		Part No.	Part Name & Description
CABINET and CHASSIS PARTS			
1		SBN773	Knob, Volume Control
2		SBN771	Knob, Balance, Bass & Treble Control
3		SBN769	Knob, Selector Switches
4		SGWU8088M	Panel, Front Ass'y
5		SHG1481	Bracket, LED Indicators
6		SDU15	Filter, FL Peak Power Meter
7		SHG1479	Rubber Cushion, Filter
8		SUS123-2	Spring, Push Switches
9		SBC197	Button, Push Switches
10		SBD19	Knob, Lever Switches
11		SNE4021	Nut, Volumes & Selector Switches M'tg
12		**XNS12**	Nut, Headphones Jack M'tg
13		SNE59-1	Washer
14		XCJ6P21B-A	Jack, Headphones
15		SHGA204	Rubber Bracket, Power Indicator
16		ESA23421	Remote Switch, Speakers Selector
17		ESA338	Remote Switch, Phono Selector (w/Wire)
18		ESA332	Remote Switch, Recording Selector (w/Wire)
19		ESA335	Remote Switch, Input Selector (w/Wire)
20		ESA2072	Remote Switch, Speakers (w/Wire)
21		SJF5807	Terminal, Speakers
22		SKA10131	Cabinet
23		SHS1009	Fiber, Cabinet
24	⚠	SJA97	AC Cord, Power Source (with Plug)
24 [XSW] only	⚠	SJA111	AC Cord, Power Source (with Plug)
25		SHR127	Bushing, AC Cord
26		SJS6509	DIN Socket, Tape Deck Connection
27		SJF4101	Terminal, Earth (Ground)
28		SJT201	Lug, Earth (Ground)

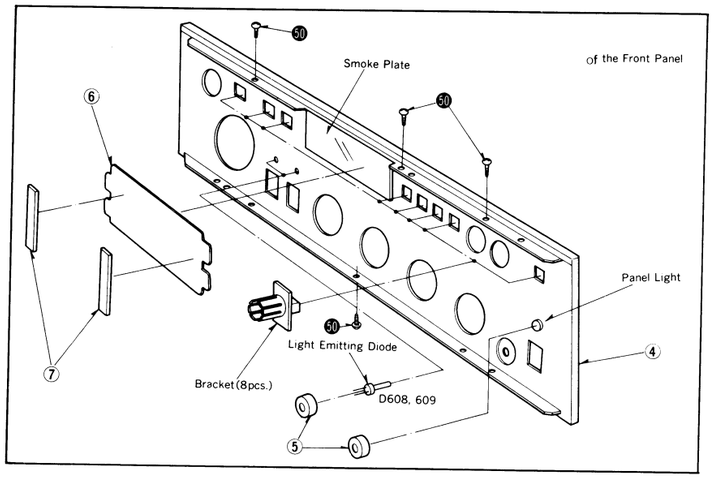
Ref. No.		Part No.	Part Name & Description
29 [D, XSW] only		SGPU8088W	Rear Panel, SGP1530-1B with Plate (SGP9017)
29 Except [D, XSW]		SGPU8088D	Rear Panel, SGPU8088W with Name Plate (SGT19550)
30		SJF3211-5	Terminal, PHONO 1 Input
31		SJF3211-4	Terminal, PHONO 2 Input
32		SJP1103	Pin Plug, Phono Input Terminal
33		SJF3423	Terminal, TUNER and AUX Input
34		SJF3425	Terminal, Tape Deck 2 Connection
35		SJF3421	Terminal, Pre/Main, Tape 1 Connection
36		SJP9205-1	Connector Pin, Pre & Main Amplifier
37		SKU7210	Bottom Board
38		SKLA7-1	Foot, Bottom Board
39		SGK1263	Label, Front Panel (straight DC & 3DA)
40		SJV1401-1	Socket, Power Transistor (See Fig.8 on Page 19)
41		XNGR6	Nut, Ground Terminal M'tg
42		SJS6601	Socket, Printed Circuit Board, 6 pin (See Fig.8 on Page 19)
SCREWS and WASHERS			
㊵		**XTB3+8BFN**	Screw, Front Panel M'tg
㊶		**XTB4+8BFZ**	Screw, Power Transformer M'tg
㊷		**XTB4+8BFN**	Screw, Cabinet M'tg
㊸		**XTB3+8BFN**	Screw, Bottom Board M'tg
㊹		**XTN3+10B**	Screw, Foot M'tg
㊺		**XWG3**	Washer
㊻		**XTB3+8BFN**	Screw, FL Meter P.C.B. M'tg
㊼		**XWC6B**	Washer, Ground Terminal
㊽		**XTB3+8BFZ**	Screw, Speaker & Input Terminal M'tg
㊾		**XSB3+16BNS**	Screw, Power Transistor M'tg
㊿		**XWA3BFN**	Washer, Spring
(51)		**XSN3+6BVS**	Screw, Voltage Adjuster M'tg
(52)		**XWA3BFZ**	Washer, Spring

■ REPLACEMENT PARTS LIST ..... Packing Parts

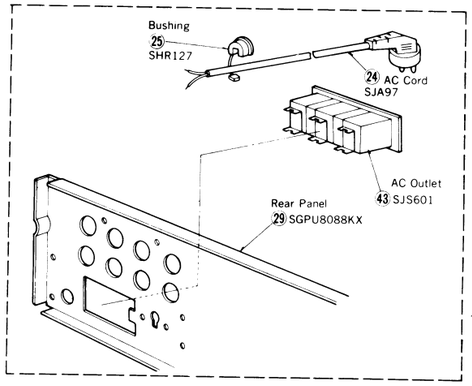
Ref. No.		Part No.	Part Name & Description
PACKING PARTS			
P1		SPP595	Polyethylene Bag
P2		SPS1717-1	Pad, Left Side
P2 [XSW] only		SPS1717	Pad, Left Side
P3		SPS1719-1	Pad, Right Side
P3 [XSW] only		SPS1719	Pad, Right Side
P4 [XSW] only		SPG1979	Carton Box
P4 [XGF] only		SPG1997	Carton Box
P4		SPG1995	Carton Box
P5		SQF10175	Instructions Book, Printed Matter

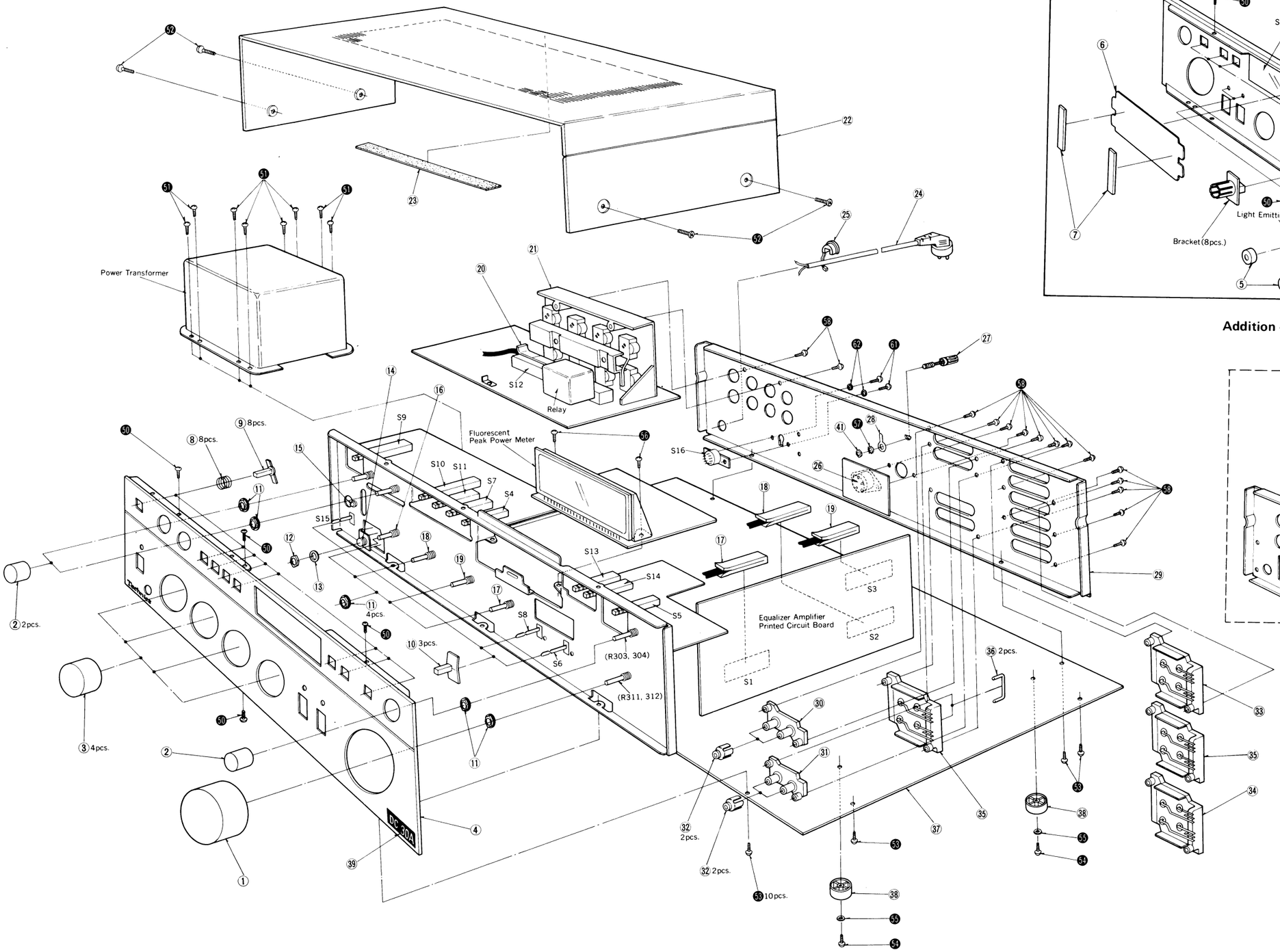
Notes: (D) and (DG) are available in Scandinavia and European only.
(EB) is available in Belgium only.
(XSW) is available in Switzerland only.
(XGF) is available in France only.
(XGH) is available in Holland only.
(XE) is available in United Kingdom only.
(X) and (XA) are available in Asia, Latin America, Middle East and Africa only.
(XAL) is available in Australia only.

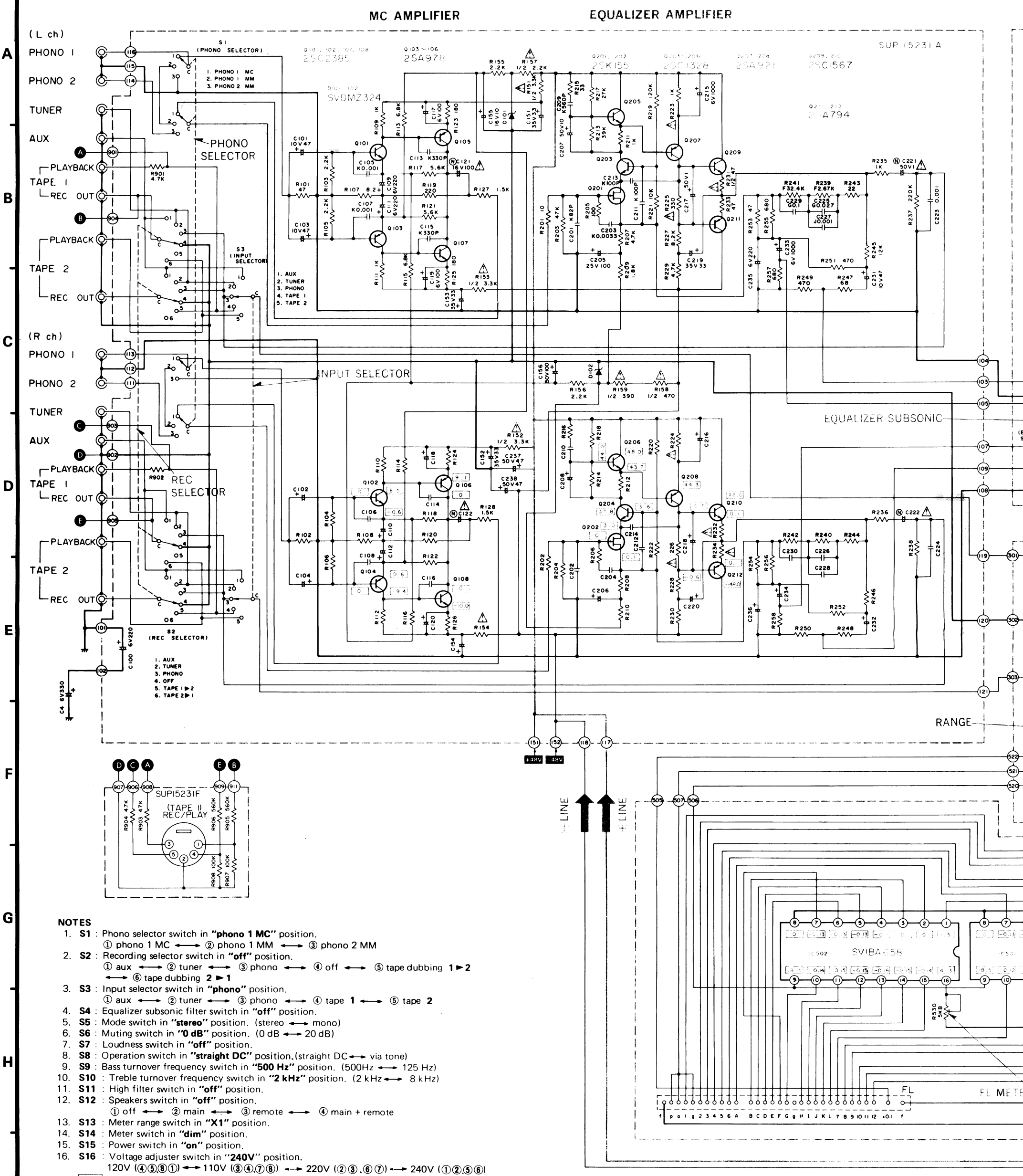
■ EXPLODED VIEWS



Addition of AC outlets, only for products SU-8088K (X) and SU-8088K (XA)







NOTES

1. **S1** : Phono selector switch in **"phono 1 MC"** position.
   ① phono 1 MC ⟷ ② phono 1 MM ⟷ ③ phono 2 MM
2. **S2** : Recording selector switch in **"off"** position.
   ① aux ⟷ ② tuner ⟷ ③ phono ⟷ ④ off ⟷ ⑤ tape dubbing **1►2** ⟷ ⑥ tape dubbing **2►1**
3. **S3** : Input selector switch in **"phono"** position.
   ① aux ⟷ ② tuner ⟷ ③ phono ⟷ ④ tape **1** ⟷ ⑤ tape **2**
4. **S4** : Equalizer subsonic filter switch in **"off"** position.
5. **S5** : Mode switch in **"stereo"** position. (stereo ⟷ mono)
6. **S6** : Muting switch in **"0 dB"** position. (0 dB ⟷ 20 dB)
7. **S7** : Loudness switch in **"off"** position.
8. **S8** : Operation switch in **"straight DC"** position.(straight DC⟷ via tone)
9. **S9** : Bass turnover frequency switch in **"500 Hz"** position. (500Hz ⟷ 125 Hz)
10. **S10** : Treble turnover frequency switch in **"2 kHz"** position. (2 kHz⟷ 8 kHz)
11. **S11** : High filter switch in **"off"** position.
12. **S12** : Speakers switch in **"off"** position.
    ① off ⟷ ② main ⟷ ③ remote ⟷ ④ main + remote
13. **S13** : Meter range switch in **"X1"** position.
14. **S14** : Meter switch in **"dim"** position.
15. **S15** : Power switch in **"on"** position.
16. **S16** : Voltage adjuster switch in "**240V**" position.
    120V (④⑤⑧①) ⟷ 110V (③④⑦⑧) ⟷ 220V (②③,⑥⑦) ⟷ 240V (①②⑤⑥)
    ☐ Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
    Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
17. Phono MM signal lines of left channel.
    ▱▱▱

8 9 10 11 12 13 14

TONE AMPLIFIER

SUP 15231 B

BASS TREBLE

IC301 SVIM5213L

IC302 SVIM5213L

TURNOVER S9 (BASS TURN OVER) 125Hz 500Hz

TURNOVER S10 (TREBLE TURN OVER) 8kHz 2kHz

S11 (HIGH FILTER) HIGH FILTER

S7 (LOUDNESS) LOUDNESS

S4 (EQ. SUBSONIC)

MODE S5 (MODE) STEREO MONO

S6 (MUTING) -20dB → 0dB MUTING

VOLUME

S8 (OPERATION) via tone straight DC OPERATION

BALANCE

S13 (RANGE) x1 x0.1

S14 (METER) dim bright METER

D608 (MUTING IND.)

D608, 609 SVDGD4203SRD

OPERATION IND

SUP 15231 C

SUP 15231 D

SUP 15231 E

PRE OUT MAIN IN L R

DC UNBALANCE ADJ.

SUP 15251 A

Q401, 402 2SK150

Q403, 404 2SC2291

Q405, 40 2SA99

D401~404, 421~424 MA150

D407, 408 SVDSTV4HG

DC UNBALANC

Q601 2SC1328

Q602 2SA722

Q603 2SC1980

Q604 2SA921

REGULATOR CIRCUIT

REGULATOR(48V) ADJ.

D606 SVDMZ306

Q605 2SC1913

Q606 2SA913

SUP 15271 A

SUP 15271 B

IC501 SVIBA658

Q501~504 2SC1815

Q505 2SA1015

Q506 2SC1983

D501, 502 2D499

D503 SVDMZ318

FL METER ADJ. (50W)

FL METER ADJ. (0.03W)

HEADPHONES

Q505

METER CIRCUIT

RELAY DRIVE

D607, 702 MA150

Q704 Q705 Q703 Q702 Q701

D701 RELAY

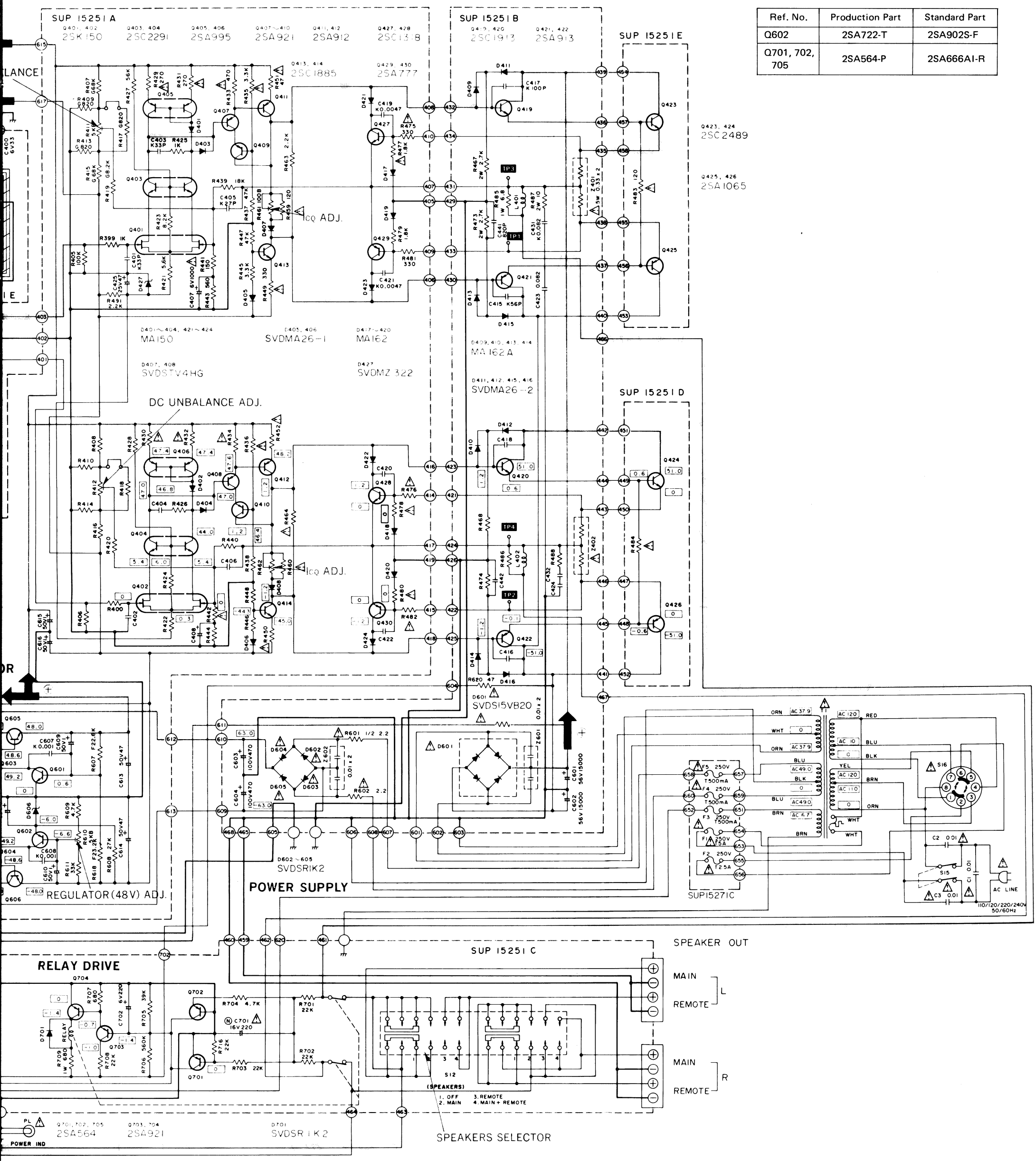
PL POWER IND

Q701, 702, 705 2SA564

Q703, 704 2SA921

MAIN AMPLIFIER

Ref. No.	Production Part	Standard Part
Q602	2SA722-T	2SA902S-F
Q701, 702, 705	2SA564-P	2SA666AI-R



■ CHANGE OF PARTS LIST

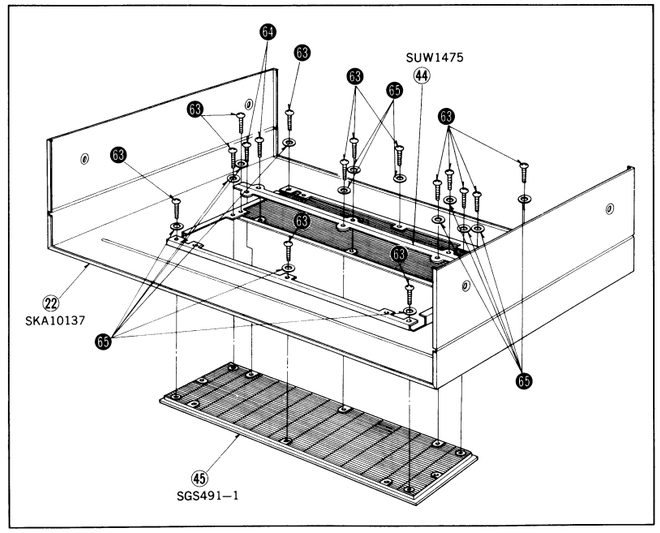
SU-8088K

(D), (DG), (EB), (XSW), (XGH), (XE), (X), (XA), (XAL)

Note: This parts list included only the changes of the model SU-8088 parts list.

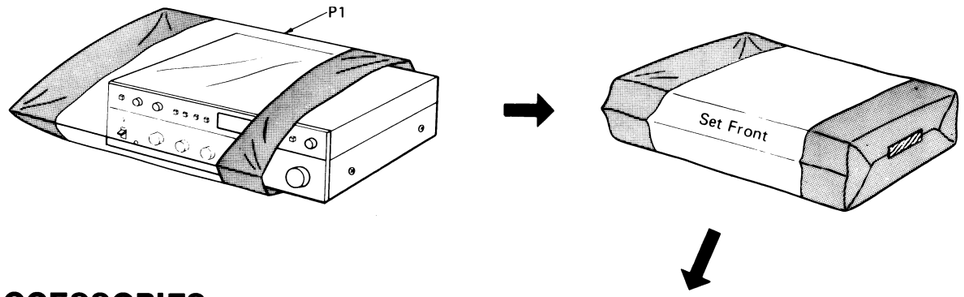
Ref. No.	Change of Part No. SU-8088 → SU-8088K		Part Name & Description
		TRANSFORMER	
T1	SLT5Q99	SLT5Q99	Transformer, Power Source (Except for [XE])
		SLT5Q101 [XE] only	Transformer, Power Source
		FUSE	
F2	XBA2C25TR0	XBA2C25TR0	Fuse, T2.5A (250V) Except for [XE]
		XBAS2A2502 [XE] only	Fuse, T2.5A (250V)
		CABINET and CHASSIS PARTS	
1	SBN773	SBN827	Knob, Volume Control
2	SBN771	SBN831	Knob, Balance, Bass & Treble Control
3	SBN769	SBN829	Knob, Selector Switches
4	SGWU8088M	SGWU8088KD	Panel, Front Ass'y (Balck)
9	SBC197	SBC197-1	Button, Push Switches
10	SBD19	SBD19-1	Knob, Lever Switches
22	SKA10131	SKA10132	Cabinet, Ass'y Except for [XE]
		SKA10137 [XE] only	Cabinet
24	SJA97	SJA97	AC Cord, with Plug (Except for [XSW, XAL, XE])
		SJA111 [XSW] only	AC Cord, with Plug
	SJA111 [XSW]	QFC1207M [XAL] only	AC Cord, with Plug
		RJA45ZC [XE] only	AC Cord
25	SHR127	SHR127	Bushing, AC Cord (Except for [XAL, XE])
		SHR131 [XAL] only	Bushing, AC Cord
		SHR129 [XE] only	Bushing, AC Cord
29	SGPU8088W	SGPU8088KD	Rear Panel, SGPU8088W with Name Plate (SGT19551) Except for [X, XA, XAL]
		SGPU8088KX [X, XA] only	Rear Panel, SGP1530-1A with Name Plate (SGT19430)
	SGPU8088D	SGPU8088KL [XAL] only	Rear Panel, SGP1530-2B with Name Plate (SGT19430)
43	Addition	SJS601 [X, XA] only	Socket, AC Outlet
44	Addition	SUW1475 [XE] only	Metal Fitting (Addition Only Products for [XE])
45	Addition	SGS491-1 [XE] only	Ventilation (Addition Only Products for [XE])
		SCREWS and WASHERS	
⑥0	XTB3+8BFN	XTB3+8BFZ	Screw, Front Panel M'tg
⑥2	XTB4+8FFN	XTB4+8BFZ	Screw, Cabinet M'tg
⑥3	Addition	XSN3+6BVS [XE] only	Screw, Ventilation M'tg (Addition Only Products for [XE])
⑥4	Addition	XSS3+6BVS [XE] only	Screw, Ventilation M'tg (Addition Only Products for [XE])
⑥5	Addition	XWA3BFZ	Washer, Ventilation M'tg Screw (Addition Only Products for [XE])
		PACKING PARTS	
P2	SPS1717-1	SPS1717-1	Pad, Left Side
	SPS1717 [XSW] only	SPS1717 [XE, XSW] only	Pad, Left Side
P3	SPS1719-1	SPS1719-1	Pad, Right Side
	SPS1719 [XSW] only	SPS1719 [XE, XSW] only	Pad, Right Side
P4	SPG1979[XSW]	SPG2011 [XE, XSW] only	Carton Box
	SPG1997[XGF]		
	SPG1995	SPG2009	Carton Box, Except for [XE, XSW]
		ACCESSORIES	
A1	Addition	SJP5213-1 [X, XA] only	Plug Adapter, Power Source
A2	Addition	SJP5215 [X, XA] only	Plug Adapter, Power Source

(D) and (DG) are available in Scandinavia and European only.
(EB) is available in Belgium only.
(XSW) is available in Switzerland only.
(XGH) is available in Holland only.
(XE) is available in United Kingdom only.
(X) and (XA) are available in Asia Latin America, Middle East and Africa only.
(XAL) is available in Australia only.



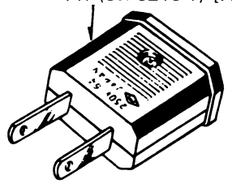
(This Cabinet is available in SU-8088K [XE] only.)

■ PACKINGS

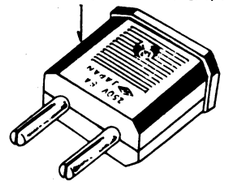


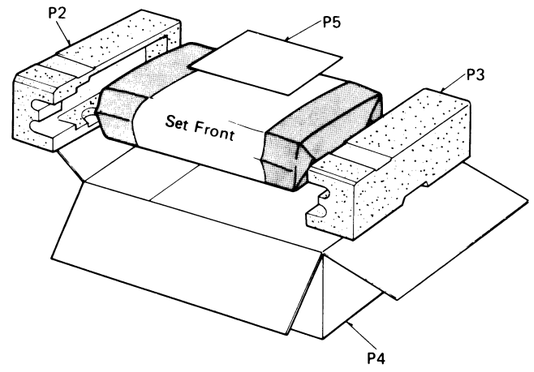
■ ACCESSORIES

A1 (SJP5213-1) [X, XA] only



A2 (SJP5215) [X, XA] only





- (X) and (XA) are available in Asia Latin America. Middle East and Africa only.

Printed in Jap
79036800 A

ORDER NO. SD7902-1516

Service Manual

SU-8088/K

Stereo Integrated Amplifier

SU-8088

(D), (DG), (EB), (XSW), (XGF), (XGH)

SU-8088K

(D), (DG), (EB), (XSW), (XE), (X), (XA), (XAL)

Tentative

* The models SU-8088 (D, DG) and SU-8088K (D, DG) are available in Scandinavia and European only.
* The models SU-8088 (EB) and SU-8088K (EB) are available in Belgium only.
* The models SU-8088 (XSW) and SU-8088K (XSW) are available in Switzerland only.
* The model SU-8088 (XGF) is available in France only.
* The model SU-8088 (XGH) is available in Holland only.
* The model SU-8088K (XE) is available in United Kingdom only.
* The models SU-8088K (X, XA) are available in Asia, Latin America, Middle East and Africa only.
* The model SU-8088K (XAL) is available in Australia only.

TECHNICAL SPECIFICATIONS

Specifications are subject to change without notice for further improvement.

[DIN 45 500]

AMPLIFIER SECTION

20Hz ~ 20kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
40 Hz ~ 16 kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
1 kHz continuous power output	
both channels driven	2 x 95 W (4Ω), 2 x 85 W (8Ω)
Power bandwidth both channels driven, –3 dB	
	THD 0.02% 5Hz ~ 50 kHz (4Ω)
	THD 0.01% 5 Hz ~ 60 kHz (8Ω)
Total harmonic distortion	
rated power at 20 Hz ~ 20 kHz	0.02% (4Ω), 0.01% (8Ω)
rated power at 40 Hz ~ 16 kHz	0.01% (4Ω, 8Ω)
rated power at 1 kHz	0.01% (4Ω, 8Ω)
half power at 20 Hz ~ 20 kHz	0.007% (8Ω)
half power at 1 kHz	0.003% (8Ω)
–26 dB power at 1 kHz	0.07% (4Ω)
50mW power at 1 kHz	0.12% (4Ω)
Intermodulation distortion	
rated power at 250 Hz : 8 kHz = 4 : 1,4Ω	0.02%
rated power at 60 Hz : 7 kHz = 4 : 1, SMPTE, 8Ω	0.01%
Residual hum & noise (Straight DC)	0.3 mV (0.3 mV, IHF A)
Damping factor	25 (4Ω), 50 (8Ω)
Input sensitivity and impedance	
PHONO 1, 2 MM	2.5 mV/47 kΩ
PHONO 1 MC	100μV/47Ω
TUNER, AUX	200 mV/47 kΩ
TAPE 1, 2 (PLAYBACK), REC/PLAY	200 mV/47 kΩ
MAIN IN	1V/18 kΩ
PHONO maximum input voltage (1 kHz, RMS) MM	250 mV
MC	10 mV
S/N rated power at 4Ω	
PHONO 1, 2 MM	75 dB (90 dB, IHF A)
PHONO 1 MC	70 dB (78 dB, IHF A)
TUNER, AUX	92 dB (110 dB, IHF A)
S/N –26 dB power at 4Ω	
PHONO 1, 2 MM, PHONO 1 MC	67 dB
TUNER, AUX	69 dB
S/N 50 mW power at 4Ω	
PHONO 1, 2 MM, PHONO 1 MC	64 dB
TUNER, AUX	65 dB
Frequency response PHONO	RIAA standard curve
	30 Hz ~ 15 kHz, ±0.2 dB
TUNER, AUX, TAPE	20 Hz ~ 20 kHz, $^{+0}_{-0.1}$ dB
	0.5 Hz ~ 100 kHz, –1 dB
Tone controls BASS	50 Hz, +7.5 dB ~ –7.5 dB
TREBLE	20 kHz, +7.5 dB ~ –7.5 dB
Turnover frequency BASS	125 Hz, 500 Hz
TREBLE	2 kHz, 8 kHz
High filter	7 kHz, –6 dB/oct.
Subsonic filter	20 Hz, –12 dB/oct.
Loudness control (volume at –30 dB)	50 Hz, +7.5 dB
Output voltage and impedance PRE OUT	rated 1V, max. 7V
REC OUT	200 mV
REC/PLAY	30 mV/82 kΩ
Channel balance (250 Hz ~ 6300 Hz), AUX	±1.0 dB
Channel separation at 1 kHz, AUX	60 dB
Headphones output level and impedance	600 mV/330Ω
Load impedance MAIN or REMOTE	4 ~ 16Ω
MAIN + REMOTE	8 ~ 16Ω

GENERAL

Power consumption	330 W
Power supply (50 Hz/60 Hz)	110V/120V/220V/240V
Dimensions (W x H x D)	450 x 142 x 380 mm
	(17-23/32" x 5-19/32" x 14-3/16")
Weight	15 kg (33.1 lb.)

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

TECHNISCHE DATEN Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

[DIN 45 500]

VERSTÄRKERTEIL

Dauertonleistung bei 20 Hz ~ 20 kHz 2 x 90 W (4Ω)
beide Kanäle zusammen ausgesteuert 2 x 80 W (8Ω)

Dauertonleistung bei 40 Hz ~ 16 kHz 2 x 90 W (4Ω)
beide Kanäle zusammen ausgesteuert 2 x 80 W (8Ω)

Dauertonleistung bei 1 kHz 2 x 95 W (4Ω)
beide Kanäle zusammen ausgesteuert 2 x 85 W (8Ω)

Leistungsbandbreite
beide Kanäle zusammen ausgesteuert, –3 dB
THD 0,02% 5 Hz ~ 50 kHz (4Ω)
THD 0,01% 5 Hz ~ 60 kHz (8Ω)

Harmonische Verzerrungen
Nennausgangsleistung bei 20 Hz ~ 20 kHz
0,02% (4Ω), 0,01% (8Ω)
Nennausgangsleistung bei 40 Hz ~ 16 kHz 0,01% (4Ω, 8Ω)
Nennausgangsleistung bei 1 kHz 0,01% (4Ω, 8Ω)
Halber Ausgangsleistung bei 20 Hz ~ 20 kHz 0,007% (8Ω)
Halber Ausgangsleistung bei 1 kHz 0,003% (8Ω)
–26 dB Ausgangsleistung bei 1 kHz 0,07% (4Ω)
50 mW Ausgangsleistung bei 1 kHz 0,12% (4Ω)

Intermodulationsverzerrung
Nennausgangsleistung bei 250 Hz: 8kHz = 4:1, 4Ω 0,02%
Nennausgangsleistung bei 60Hz: kHz = 4:1, SMPTE 8Ω 0,01%

Brummen & Rauschen 0,3 mV (0,3 mV, IHF A)
Dämpfungsfaktor 25 (4Ω), 50 (8Ω)

Eingangsempfindlichkeit & Impedanz
PHONO 1, 2 MM 2,5 mV/47 kΩ
PHONO 1 MC 100μV/47Ω
TUNER, AUX 200 mV/47 kΩ
TAPE 2, REC/PLAY 200 mV/47 kΩ
TAPE 2 200 mV/47 kΩ
MAIN IN 1V/18kΩ

PHONO Maximale Eingangsspannungen **MM** 250 mV
MC 10 mV

Frequenzang **PHONO** RIAA Standardkurve
30 Hz ~ 15 kHz, ±0,2 dB
TUNER, AUX, TAPE 0,5 Hz ~ 100 kHz, –1 dB
20 Hz ~ 20 kHz, $^{+0}_{-0,1}$ dB

Fremdspannungsabstand
Nennausgangsleistung bei 4Ω
PHONO 1, 2 MM 75 dB (90 dB, IHF A)
PHONO 1 MC 70 dB (78 dB, IHF A)
TUNER, AUX 92 dB (110 dB, IHF A)
–26 dB Ausgangsleistung bei 4Ω **PHONO 1, 2 MM** 67 dB
PHONO 1 MC 67 dB
TUNER, AUX 69 dB
50mW Ausgangsleistung bei 4Ω **PHONO 1, 2 MM** 64 dB
PHONO 1 MC 64 dB
TUNER, AUX 65 dB

Klangregler **BÄSSE** 50 Hz, +7,5 dB ~ –7,5 dB
HÖHEN 20 kHz, +7,5 dB ~ –7,5 dB

Übergangsfrequenz **BÄSSE** 125Hz, 500Hz
HÖHEN 2kHz, 8kHz

Höhenfilter (HIGH) 7 kHz, –6 dB/oct.
Unterschallfilter 20 Hz, –12 dB/oct.
Gehörgerechte Lautstärkekorrektur (Lautstärke bei –30 dB) 50 Hz, +7,5 dB

Ausgangsspannungen & Impedanz **PRE OUT** Nennleistung 1V, max. 7V
REC OUT 200 mV
REC/PLAY 30 mV/82 kΩ

Kanalabweichung (250 Hz ~ 6300 Hz), AUX ±1,0 dB
Kanaltrennung bei 1 kHz, AUX 60 dB
Köpfhörerpegel und Ausgangsimpedanz 600 mV/330Ω
Lautsprecher-Ausgangsimpedanz
MAIN oder REMOTE 4 ~ 16Ω
MAIN und REMOTE 8 ~ 16Ω

ALLGEMEINE DATEN

Leistungsaufnahme 830 W
Netzspannung umschaltbar (50 Hz/60Hz) 110V/120V/220V/240V
Abmessungen (B x H x T) 450 x 142 x 360 mm
Gewicht 15 kg

CARACTERISTIQUES TECHIQUES Sujet à changement sans préaris.

[DIN 45 500]

PARTIE AMPLIFICATEUR

Puissance (continue) à 20 Hz ~ 20 kHz
pour l'ensemble des canaux excités 2 x 90 W (4Ω)
2 x 80 W (8Ω)

Puissance (continue) à 40 Hz ~ 16 kHz
pour l'ensemble des canaux excités 2 x 90 W (4Ω)
2 x 80 W (8Ω)

Puissance (continue) à 1 kHz
pour l'ensemble des canaux excités 2 x 95 W (4Ω)
2 x 85 W (8Ω)

Largeur de bande de puissance
pour l'ensemble des canaux excités, –3 dB
THD 0,02% 5 Hz ~ 50 kHz (4Ω)
THD 0,01% 5 Hz ~ 60 kHz (8Ω)

Distorsion harmonique totale
pour la puissance mesurée à 20 Hz ~ 20 kHz
0,02% (4Ω), 0.01% (8Ω)
pour la puissance mesurée à 40 Hz ~ 16 kHz
0,01% (4Ω 8Ω)
pour la puissance mesurée à 1 kHz 0,01%(4Ω, 8Ω)
pour la demi-puissance mesurée à 20 Hz ~ 20 kHz
0,007% (8Ω)
pour la demi-puissance mesurée à 1 kHz 0,003% (8Ω)
pour une puissance mesurée de –26 dB, 1 kHz 0,07% (4Ω)
pour une puissance mesurée de 50 mW, 1 kHz 0,12% (4Ω)

Distorsion d'intermodulation
pour la puissance mesurée à 250 Hz: 8 kHz = 4:1, 4Ω 0,02%
pour la puissance mesurée à 60 Hz: 7 kHz = 4:1, 8Ω 0,01%

Tension résiduelle de bruit 0,3 mV (0,3 mV: IHF A)
Facteur d'amortissement 25 (4Ω), 50 (8Ω)

Sensibilité & impédance d'entrée
PHONO 1, 2 MM 2,5 mV/47 kΩ
PHONO 1 MC 100μV/47Ω
TUNER, AUX 200 mV/47 kΩ
TAPE 1, REC/PLAY 200 mV/47 kΩ
TAPE 2 200 mV/47 kΩ
MAIN IN 1V/18 kΩ

Voltage d'entrée maximum (PHONO, 1 kHz, RMS)
MM 250 mV
MC 10 mV

Réponse de fréquence
PHONO Courbe standard RIAA
30 Hz ~ 15 kHz, ±0,2 dB
TUNER, AUX, TAPE 0,5 Hz ~ 100 kHz, –1 dB
20 Hz ~ 20 kHz, $^{+0}_{-0,1}$ dB

Rapport signal/bruit
pour la puissance nominale, 4Ω
PHONO 1, 2 MM 75 dB (90 dB, IHF A)
PHONO 1 MC 70 dB (78 dB, IHF A)
TUNER, AUX 92 dB (110 dB, IHF A)
pour une sortie de –26 dB, 4Ω
PHONO 1, 2 MM 67 dB
PHONO 1 MC 67 dB
TUNER, AUX 69 dB
pour une sortie de 50 mW, 4Ω
PHONO 1, 2 MM 64 dB
PHONO 1 MC 64 dB
TUNER, AUX 65 dB

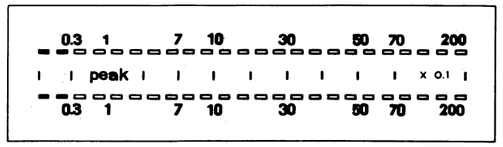
Réglage de la tonalité
BASS (graves) 50 Hz, + 7,5 dB ~ –7,5 dB
TREBLE (aigus) 20 kHz, + 7,5 dB ~ –7,5 dB

Fréquence charnière
BASS 125 Hz, 500 Hz
TREBLE 2 kHz, 8 kHz

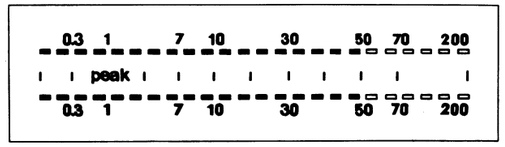
Filtre subsonique 20 Hz, –12 dB/oct.
Filtre Aigu (HIGH) 7 kHz, – 6 dB/oct.
Correction physiologique (volume à –30 dB) 50 Hz, +7,5 dB
Tension de sortie & impédance **PRE OUT** nominal 1 V
maxi 7 V
REC OUT 200 mV
REC/PLAY 30 mV/82 kΩ
Equilibrage de canaux (250 Hz ~ 6300 Hz), AUX ±1,0 dB
Séparation des canaux, AUX 1 kHz 60 dB
Niveau de casque et impédance de sortie 600 mV/330Ω
Impédance de charge **PRINCIPALE ou ELOIGNEE** 4 ~ 16Ω
PRINCIPALE + ELOIGNEE 8 ~ 16Ω

GENERALITES

Consommation 830 W
Alimentation (50 Hz/60 Hz) 110V/120V/220V/240 V
Dimensions (L x H x Pr) 450 x 142 x 360 mm
Poids 15 kg

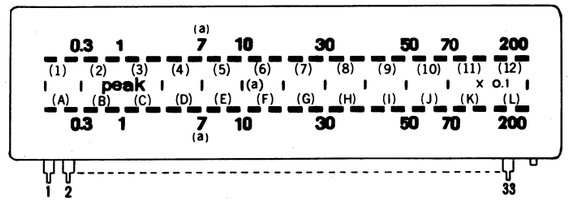


0.03W
[Fig. 1]



50W
[Fig. 2]

• **Segment indication pattern**

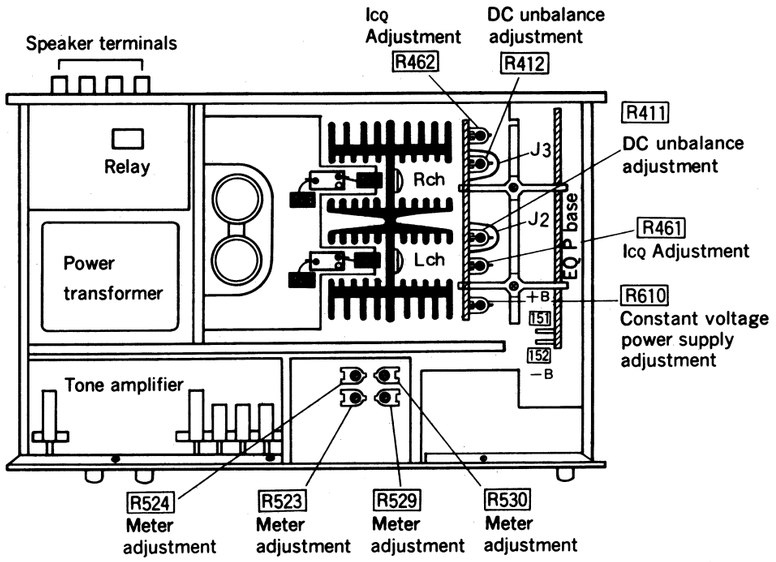


Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Electrode	f	peak	a	1	g	2	3	4	5	6	A	B	C	D	E	F	G

Terminal No.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Electrode	g	H	I	J	K	L	7	8	9	10	11	12		×0.1		f

Note: 1. (a) represents the segments for the top and bottom number scales and for central bar scales.
2. Each segment consists of two bars.
(▬ ▬ ..... 1 segment)

■ ALIGNMENT POINTS



■ ANWEISUNGEN FÜR ABGLEICHUNG ■ DEUTSCH

1. Abgleichen der unausgeglichenen Gleichspannung und ICQ (Leerlauf der Leistung TR)

- **Stellungszustand und verwendete Geräte**

1. Betriebsschalter ..... straight DC (Gleichstrom)
2. Lautsprecherschalter ..... main
3. Lautstärke ..... 0 (Min.)
4. Gleichstrom-Voltmesser
5. 8 Ohm Belastungswiderstand (nur für Abgleichen der unausgeglichenen Gleichspannung verwendet.)

Abgleich	Anschluß des Gleichstrom-Voltmessers	Abgleichspunkte	Abgleichsverfahren
Stromzuführung konstanter Spannung	Die (+)—Klemme des Gleichstrom-Voltmeters an die Klemme Nr.151, und die (—)—Klemme an die Erdung schließen.	R610	(1) Zwischen Klemme 151 und Erdung die Spannung auf (+)48V einstellen. (2) Dabei zwischen Klemme 152 und Erdung überprüfen, daß die Spannung von (—)47V bis (—)48,5V beträgt.
Unausgeglichene Gleichspannung des Leistungsverstärkers	In Parallel mit dem 8-Ohm-Belastungsregister das Meter an die Lautsprecherklemme für L-und R-Kanal schließen.	R411 (L) R412 (R)	(1) Mit möglichst kleinem Meßbereich das Meter auf "O" stellen. Anmerkung: Wenn es nicht eingestellt werden kann, vor Einstellung den Schaltdraht J2(L-Kanal) und J3(R-Kanal) abschneiden.
ICQ (Leerlauf der Leistung TR)	(+) Seite ..... TP3 (—) Seite ..... TP1 } L-Kanal	R461 (L) R462 (R)	Ein paar Minuten nach Schalten auf Leistungszufuhr auf ca. 15 mV einstellen.
	(+) Seite ..... TP4 (—) Seite ..... TP2 } R-Kanal		

2. Abgleichen des FL-Leistungsmeßgerätes

- **Stellungszustand und verwendete Geräte**

1. Eingangsumschalter. . . . . .tuner
2. Lautsprecherschalter. . . . . .main
3. Meßbereichschalter . . . . . .X 0,1 oder X1
4. Schalter für Meßgeräteeleuchtungsstärke . . . . . .dim oder bright
5. Lautstärke . . . . . .10 (Max.)
6. Niederfrequenz-Oszillator
7. Wechselstrom-Elektronen-Voltmesser
8. 8 Ohm Belastungswiederstand

2-1. Abgleichen von 0,03W

1) An die Tunerklemmen der beiden Kanäle Niederfrequenz-Oszillator anschließen, und an die Lautsprecherklemme parallel mit Belastungswiederstand den Wechselstrom-Elektronen-Voltmesser anschließen.
2) Meßbereichschalter uaf "x 0,1" und Schalter für Gerätbeleuchtungsstärke auf "dim" stellen.
3) Vom Niederfrequenz-Oszillator 1 kHz Signal speisen, und Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmesser 0,75 anzeigt.
4) Unter Beobachten auf FL-Leistungsmeßgerät R523 (L-Kanal) einstellen, bis das erste Segment fast aufzuleuchten beginnt. (0,3 x 0,1 W)
5) Anschließend R524 (R-Kanal) in gleicher Weise abgleichen. Wenn sich dabei die Anzeige des L-Kanals ändert, R523 berichtigen.
Anmerkung: Wenn das Abgleichen so erfolgt, daß das zweite Segmant fast aufzuleuchten beginnt, so leuchtet das erste Segment ohne Eingang auf.

2-2. Abgleichen von 50 W

1) Meßbereichschalter auf "X1", und Schalter für Gerätbeleuchtungsstärke auf "bright" stellen.
2) Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmesser 19 V anzeigt.
3) Unter Einstellung von R529 (L-Kanal) und R530 (R-Kanal) in gleicher Weise wie oben in 2-1 so abgleichen, daß das 9. Segment fast aufzuleuchten beginnt.
4) Dann Eingangspegel einstellen und wie in 2-1 (0,03W) abgleichen.
5) Eingangspegel wieder einstellen, damit der Eingang 19 V wird, und sicherstellen, daß das Segment bei 50 W aufleuchtet.

■ PRINTED CIRCUIT BOARD WIRING VIEW ..... EQUALIZER & TONE AMPLIFIER CIRCUITS

Earth (Ground) Lines